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Huge News Print Merger Looked For In Canada

Ground Said to Have Been Cleared For Negotiations Towards Consolidation of Canada Power & Paper and Abitibi—Obstacles Which Hitherto Stood In Way Understood to Have Been Removed—Amalgamation of Leading Interests Would Prove One of Most Impressive Developments In History of Paper Industry

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., August 18, 1930.—It is stated with some assurance here by interests who claim to be in a position to know that events are quietly shaping themselves toward a merger between the Canada Power and Paper Corporation and the Abitibi Power and Paper Company, Limited. Rumors to this effect have been current for some time, but have been regarded as nothing more than the anticipation of a possibility; now it is claimed there are good reasons for believing the merger will be achieved in the not distant future. Exactly what are the grounds for this claim cannot be ascertained, but it is said that certain obstacles which hitherto stood in the way have been removed and the ground cleared for negotiations.

If such an amalgamation should take place, it will be one of the most impressive developments in the industrial life of Canada in recent years and also one of the most impressive in the history of the paper-making trade. By the recent merger of the Anglo-Canadian, at Shawingian Falls; St. Maurice Paper, at Cape de la the latter now controls mills with a daily capacity of 2,500 tons of news print. The daily capacity of the Abitibi Power and Paper Company is 2,200 tons of news print, so that the combined capacity of the two would amount to 4,700 tons.

The mills of the two stretch all the way from the lower St. Lawrence to Manitoba, and along the whole route enormous areas of pulpwood are controlled. The mills operated by Canada Power and Paper are: Anglo-Canadian, at Quebec City; Belgo-Canadian, at Shawinigan Falls; St. Maurice Paper, at Cap de la Madeleine, Que.; Laurentide, at Grand Pere, Que.; Laurentide-Ottawa, at Pembroke, Ont.; Port Alfred, at Port Alfred, Que, and Wayagamack, at Three Rivers, Que.

In addition to news print, Canada Power and Paper has capacity for the prodution of 125 tons of pure kraft paper and 240 tons of pure sulphate pulp daily.

The mills operated by the Abitibi Company are situated at: Murray Bay, Que.; Beaubre, Que.; Sturgeon Falls, Ont.; Espanola, Ont.; Sault Ste. Marie, Ont.; Iroquois Falls, Ont.; Smooth Rock Falls, Ont.; Fort William, Ont., and Pine Falls, Manitoba.

In addition to news print Abitibi has large capacity for the production of high-grade bleached sulphite pulp.

Fraser Co.'s Limited Affairs

It is stated in the papers here that a banking committee has been formed to take over the affairs of the Fraser Companies, Limited, owing to the organization having abnormal inventories and current liabilities over $10,000,000, including $3,500,000 of three-year notes maturing in 1932. The company has been carrying out a large expansion program, which was completed this year, and as a result the daily capacity is now approximately 150 tons of sulphite bond and waxing papers; 140 tons of paper board; 110 tons of catalogue paper; 60 tons of unbleached sulphite pulp, and 150 tons of bleached sulphite pulp.

These figures do not cover the company's lumber operations. The sawmills of Fraser Companies and its subsidiaries have a combined annual manufacturing capacity of approximately 160,000,000 ft. b.m. of spruce lumber, in addition to a large production of lath, shingle and railway ties.

The financial statement for December, 1929, showed net assets had jumped from $40,383,538 to $52,340,531. Current assets totalled $14,524,800 as against current liabilities of $10,299,208, leaving a net working capital of $4,225,592.

Inventories totalled $11,323,805, or nearly 70 per cent of current assets. These were nearly $2,700,000 greater than at the end of the preceding year. Cash in bank and on hand totalled $391,548, accounts receivable $1,619,447 and notes receivable $1,200,000. The latter, represented notes of International Paper, of which $50,000 was due March, 1930.

Among current liabilities are several items of importance. Aside from accounts payable, which totalled $1,639,614, the company had bank loans of $7,540,000 and a bank overdraft of $93,428. Other current liabilities were largely made up of accruals of bonds, debenture and note interest.

During 1929 net earnings totalled $1,419,961, a drop of roughly $346,000 from the preceding year. After writing off $739,062 for depreciation and depletion, $1,071,084 for bond, debenture and note interest, and $320,912 for interest on bank loans, there was a deficit of $711,097. Furthermore, the company had paid dividends on the common stock up to December 10, 1929, adding a further $301,048 to the deficit, making $1,012,145 in all. This resulted in cutting down the previous year's surplus from $1,960,046 to $937,901.

Tidal Power Again

New York financiers are reported to have been interested in the scheme for the Petitcodiac Tidal Power Company, of Moncton, N. B., for the development of tidal power on the Petitcodiac and Memramcook rivers in New Brunswick.

The Petitcodiac scheme has been pronounced one of the finest major natural power scheme in the Maritimes and its development would give impetus to industry in the Atlantic provinces.

Pennsylvania Paper Mills Curtail Output

Fine Paper Manufacturers Will Continue Schedule of Four to Five Days of Operations For Time Being—Plans Made For Broadening Production In Late Autumn — Board Mills Receive Large Orders and Will Expand Operations Immediately

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 18, 1930—As continued cool days create greater interest in preparations for the Fall, the paper trade is much livelier in meeting the requirements of manufacturers and merchants for a broad asortment of paper goods in the wrapping paper and specialty division of the industry. While the wrapping paper dealers show the greatest activity at the present time there has been growing demands among the fine paper merchants but with orders confined to smaller lots that meet immediate needs of the consumers. The same small lot orders continue to come to the wrapping paper houses although present demands are growing in volume and bulk fairly large in view of the generally dull markets that have prevailed throughout the last six months.

Those paper dealers who classify themselves as wholesalers of papers, such as mill representatives and merchants with warehouses who concentrate on mill agencies of special lines, report that the past month's business was the best so far this year and kept to the levels of the same period of last year. The fine paper merchants in this class of trade have been enjoying increased business. Those paper mill representatives selling under contract report that business has been on a parity with last year and, in a rare one or two cases, dealers report that July orders were 5 to 7 per cent above 1929. Specialty paper mill representatives state that summer orders on lines of paper used in the extreme hot weather were far in excess of demands of last year and that orders for waxed, parchment and other household paper utilities in this class were from 6 to 10 per cent above the previous year. The torrid days also were beneficial to the glassine paper merchants and to the grocery and food trade specialists who have evened accounts through the growth of orders in the past month. Sanitary requirements were among the heavily shipped grades of papers in the mid summer days and the volume of these goods likewise exceeded sales of last year, as summaries of the July demand and early August sales are shown.

Though operations have been curtailed for the past month or so, the manufacturers are gaining in orders that have been placed since the advent of cooler days. Fine paper manufacturers state there has been better demand in the past week and while present schedule of from four to five days of operation will be maintained for another week or so there are plans for broadening production in the late August. Board mills and converters of fiber and corrugated containers have more orders and will begin enlarged scale of production in the current week. Glassine and wax and grease proof paper producers have an accumulation of orders in the recent weeks and are likewise more encouraged in their plans for wider scale production in the late month. Despite the better business outlook there is keen competition among manufacturers and the trade has this problem still to contend with in landing sufficient volume to maintain costs of overhead. It is the only dark spot of the present but the manufacturers believe that this highly competitive price situation will vanish as the season advances and orders grow proportionately to the law of supply and demand. On the average the manufacturers are running from 70 to 80 per cent of capacity. There has been a spurt of activity for the manufacturers of high grade writing papers in bonds, ledgers and fancy finishes and in cover papers and these mills report a slightly increased production schedule in the past week.

Manayunk Mills Resume Operations

The brief order for suspension of operations in the Manayunk paper mills given during the drought of the preceding week was recinded last week and the two paper mills affected by the mandate of the Schuylkill Navigation which controls the waterways of the Schuylkill Canal to shut down resumed operation on Monday evening after a four days closing. The closing was effective in increasing the water supply in the Flat Rock Dam which had become so low that it was menacing the city supply and on request of the municipal authorities the closing of the mills in that section was brought about. Now that the danger of water shortage is past normal manufacturing schedule is resumed. The two plants affected were the Container Corporation of America and the McDowell Paper mills. The Container Corporation is running on five day schedule while the McDowell Mills are on full time as broader orders for glassine paper have recently been coming to the pioneer paper concern.

Container Corp. of America Runs Four Machines

The Container Corporation of America is endeavouring to aid in the water conservation in co-operation with the Flat Rock Dam authorities by confinement of production to four machines having closed down two other board making machines. The mills were placed in operation on this schedule on Monday evening when the plant was resumed after a close down over the week end from Friday until the time of resumption of production. The four machines are on night and day shift and will be continue until the water shortage subsid s sufficiently to permit of normal schedule.

McDowell Mills on Full Time

While the McDowell Paper Mills are in the area of low waters that have been prevailing since the drought in the section of Manayunk which made water shortage so critical a week ago, the plant has not been materially affected as it is equipped for hydro-electrical power or for steam operation and while the water shortage necessitated curtainment of its usage it did not affect the steam operation nor the production at normal seasonal rate. The McDowell Mills have been receiving a fairly good volume of orders for the high grade glassines produced in recent years and so it was found necessary to resort more freely to the use of steam to speed up order and to meet the needs of the dealers with despatch. In accomodating the city authorities in keeping the water usage to a minimum the mills have been continued on steam and are now on full schedule of production with its use, so that no interference has occurred with regular work and shipments are being handled accordingly.

Reports of Resumption in Other Mills

Other mills throughout the area, which have been critically affected by the water power shortage in Eastern Pennsylvania and the northern tier on inland streams, are reported in better conditions since the rains of the late week aided in swelling the water resources to nearer normal levels. The drought in the up State section and the Eastern part of the State, has been serious and meant considerable curtailment to the mills so affected. It was necessary for such mills to place operation on a three day basis and in some of the smaller manufacturing plants there was complete suspension of operations. The same situation prevailed in Delaware and in Maryland where reports to local paper makers stated that plants were menaced and in some cases shut down for the early days of the preceding week. The cooler days that followed and the rains of the late week which covered the area has partly eliminated these conditions and by next week normalcy is anticipated.

R. T. Moorehouse Paper Co. Mill Sale

The mill buildings and property of the R. T. Moorehouse Paper Company, long located at Bridge and East Thompson streets, and one of the oldest paper manufacturing plants in the city, was sold last week to the Charles Linnig Company, dealers and manufacturers of chemicals. The property was sold for several hundred thousand, and will be occupied by the Linnig Company, 7th and Locust streets, within the next two years, the R. T. Moorehouse Company having been granted that length of time in which to dispose of its mill equipment and paper stocks on hand. The old Moorehouse paper mills were established back in the early 80's by the father of the present owner, R. O. Moorehouse. They were the first paper mills in America to manufacture popular price book papers which met the competition of foreign manufacturers and at one time did a flourishing business in this class of trade wares, with a national distribution. The firm also manufactured colored posters, news print, and other low priced products at a time when the paper manufacturing industry began to broaden and to enter competition with the producers of paper goods of allied character from across seas. In recent years the mills have not been operated, R. T. Moorehouse having held the property for sale rather than for active trade business. There was a large quantity of paper on hand prior to plans to dispose of the mills five years ago and this paper has been drifting into the trade for the last half decade as a liquidating movement. An announcement was sent to the trade last week by the mill head informing the dealers of the sale of the property and offering distributors some of this stock at great reductions. The sale of the Moorehouse mills bring to the trade recollections of the first efforts to meet European competition in low priced papers and the production in this country of the first book papers made from reclaimed cover paper stock through the soda ash process which at that time was the sole system used by the owner of the Moorehouse Mill. The owner and founder of the Mill, R. O. Moorehouse, established the plant for the purpose of producing their grade of book paper importing writing, ledger and cover paper stock from England for the purpose. It was engaged in the manufacture of cheaper book papers from 1885 to 1895, when it began the production of news prints and later color papers all made from waste papers under its own process. The mills occupy ten acres of grounds. The present proprietor, R. T. Moorehouse, will retire from the industry when the two years limitation for sale of equipment expires.

Beck Paper Co. Host to Ad Women's Club

A trip to Boston by water and visit and tour of the mills of the S. D. Warren Paper Company, was the program of entertainment and education which the Charles Beck Paper Company, 609 Chestnut street, provided for the advertising women of the Quaker City who are enrolled in the Women's Advertising Club of Philadelphia, last week. The Beck Company was host to the ad women over the week end and took the group of twelve members of the Ad Club and escorted by Leon Beck, president of the local firm, and two of the Warren mill representatives Paul Craig and Frank Wagner, of the Boston office of the paper manufacturers, by steam to The Hub and then after a two day sight seeing tour of the Massachusetts metropolis continued to Cumberland, Me., where they were entertained at a shore dinner at Pilsbury, and then went through the plant receiving a practical education in paper making as Mr. Craig gave the details of production of the Warren papers. C. W. Bond, of the Charles Beck Paper Company, special advertising and promotion manager for the local fine paper dealers and representative of the S. D. Warren Paper Company also accompanied the party and with Mr. Craig went into details of paper production in the plant. The ad women remained in the northern paper center until Thursday when the group turned homeward.

Associates to Convene at Hammermill Convention

Local associates of the paper houses carrying the papers of the Hammermill Paper Company, of Erie, Pa., will join in the group of dealers who will convene at the Erie mills of the Company in the annual convention to be staged August 27, 28 and 29. There will be in attendance at the annual sales session representatives of the four local paper houses, those associates of the Philadelphia trade who conduct fine paper concerns in other Pennsylvania cities, and dealers for the Hammermill Papers. The local trade representatives and their firms are: Thomas R. Fort, Jr., Thomas W. Price Company; George W. Ward, D. L. Ward Paper Company; Winfield Predmore, Edward McCorkendale, and John Seckle, Paper Merchants, Inc.; and Vice President Ray Smith, of the Van Reed Paper, subsidiary of the Garrett-Buchanan Company, of Reading, Pa. and Simon Walter, representing the R. P. Andrews Paper Company Division of the local firm of S. Walter, Inc., York, Pa., and the Lehigh Valley Paper Company Division of S. Walter, Inc., of Allentown, Pa., all up State distributors of the Hammermill papers with headquarters of controling interests in the Quaker City. The three day program will include a series of business discussions, tours of the plant and sales conferences interspersed with entertainment and social features.

Baeder Adamson Co. to Merge With Minnesota Co.

Merger of the Baeder-Adamson Company, manufacturers of sand papers, abrasive papers, and glue with the mills at Allegheny avenue and Richmond street, with the Minnesota Mining and Milling Manufacturing Company, in a $2,000,000 fee consideration for the local plant, was announced here last week upon authority of the president of the Minnesota concern, W. L. McKnight. The announcement of the consolidation was confirmed by George H. Halpin, vice president of the Baeder-Adamson Company, who stated the present plant will be moved west and with the removal of the equipment and business to the western city one-half or more of the local staff of employees will be retained. There are over 400 employed by the local concern in its two divisions of glue and paper manufacturing departments. Financing of the merger will be conducted through the interchange of stocks, bonds and cash. Parts of the plant, such as the cloth dyeing and finishing departments, will be continued in Philadelphia, together with part of the sand paper manufacturing division, while the remainder will be consolidated with the units and plant of the Minnesota Mining and Manufacturing Company, in St. Paul.

J. R. Howarth Paper Co. on Fishing Trip

There was a record haul of fish made by the group of associates of the J. R. Howarth Paper Company, 804 Sansom street, when the fifteen members of the firm and their staff journeyed to Bowers Beach, near Dover, Del., last week and spent the three days of the week end in enjoyment of piscatorial pursuits off the coast. The employees were guests of the members of the firm, John R. Howarth, Harry Blessing, Vincent Sherlock, Vernon Sherlock and A. Markley, whose hospitality ranged from the feasting of shore dinners served at the Beach Hotel and in the chartering of a vessel for the entire day's outing and fishing in the Chesapeake Bay where it joins with the Delaware River. The record catch included 117 fish—the "big moment" of the trip being that when Jack Snyder, landed a 75 pounder—but was obliged to let it go when he discovered it to be a poisonous stingeree and with regret cut the line and sent it back to the briny deep again, after extra exertion required to land and haul it to the boat side.

H. L. Carter Visits Pacific Coast

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 16, 1930.—Hubert L. Carter, president of the Carter-Rice Paper Company, is in the Pacific northwest visiting local branches of his company. Mr. Carter is an enthusiastic mountain climber and while in Portland he made the ascent of Mount Hood in company with Charles E. Beckwith of the Seattle office and James W. Murphy of the Portland office, both managers of the respective Carter-Rice headquarters.

Fine Paper Manufacturers Active In Canada

Many Plants Reported to be Operating At, or Close to, Capacity—Satisfactory Tonnages Being Disposed Of—Market For Wrappings and Paper Bags Quiet and Decidedly Spotty—Kraft Paper Mills Experience Moderate Demand

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, August 18, 1930—August is usually a quiet month in both wholesale and manufacturing paper circles and the present period is proving no exception to the general rule. Paper merchants report sales of light volume although they are being helped out somewhat by the close approach of the Canadian National Exhibition which opens the last week in August for a two week's run, and which is always quite a big consumer of paper. Sales of fine papers for catalog and direct mail work are usually light at this time of the year. It is just between seasons and synchronises with the exodus of the consuming and other trades to holiday haunts. On the other hand fine papers for the publishing trades, business offices, and industrial concerns generally are selling fairly well but without individual size, small orders as a rule prevailing in nearly all paper lines.

As far as mill activity goes some of the fine paper mills are operating at capacity or close to it and little complaint is heard as to the ability of the various manufacturing plants to dispose of satisfactory tonnages. A somewhat different story is heard from the coarse paper end of the industry, the market for wrappings and paper bags being quiet and decidedly spotty. This department of the paper trade has been more or less stagnant for some months, and is still reflecting quiet business throughout the province in retail circles. Kraft paper, however, is enjoying a fair demand, but a considerable lessened one as compared with a few months ago. In paper converting circles trade continues dull although there has been some slight improvement in envelope sales. Blank books and general stationery lines, however, are moving slowly. Business for future delivery among the paper converters, it is said, is fairly good, but there is a real dearth of current orders.

While light weight paper manufacturers report a volume of business slightly above that of last year at this time, they are having some difficulty in placing tonnages just now. The mills have a lot of direct accounts with big department and chain stores. One big store reported over ten thousand dollars worth of tissues and toilets on their shelves and this naturally put a stopper on buying. The Canadian tissue manufacturers, also, are being called upon to fight considerable competition in the way of United States and Swedish imports which continue to affect the tissue and toilet market here, although it is being brought home to the local consumers that if they want the best as to quality it is best to pay a little more for the Canadian made stock which they are being educated to do. Waxing, grease proof and glassine are selling on only moderate quantities and generally speaking the market in these commodities is quiet even under the most energetic sales campaigns.

There has been a slight improvement in the board market and mills appear to be getting a little busier. There is still too much of the product in stock at the mills and it will be some time yet before the effects of over-production are obliterated. The paper box industry is operating lightly which means that current requisitions for board are small in volume. The demand for rag and paper stock has shown some slight improvement during the past couple of weeks, but supplies are generally light and dealers have lately had to have recourse to their reserves of stocks in order to supply the paper mills. This was probably due to the holiday season.

Soon to Award Power Contract

The contract for the power development at Abitibi Canyon is to be awarded within the next week or so by the Ontario Power Service Corporation, Ltd., a subsidiary of the Abitibi Power and Paper Company, George F. Hardy, consulting engineer, of New York, who drew the plans, is now in negotiation with service contractors who put in tenders, and a definite decision is expected within a few days. As soon as the contractor is chosen, work will be pushed ahead. The preliminary survey work at the Canyon site has been completed, and all is ready for the contractor. The T. and N. O. spur from the main line into the Canyon has been completly graded and ballasted. An electric power line has been run from the Abitibi power plant at Island Falls, thirty miles away, and the transformers installed, so that light and power are available for the contractor the minute he waves his men and equiment on to the ground. Two thousand or more men will be employed on the construction work at Abitibi Canyon. It will be two years and a half before the big dam is completed and the generators installed. Twenty three millions is an approximate estimate of the total cost of the work. When complete, the dam will supply 270,000 of electric energy. The Provincial Hydro-Electric system has already contracted for 100,000 h.p. of the development. The remaining 175,000 h.p. will be used by the Abitibi Power and Paper Company's mills at Iroquois Falls and Smooth Rock Falls, Ont.

Safety Work in Northern Mills

Completing a visit of inspection to paper mills in the Port Arthur and Fort William district, including the Fort William Paper Company, Provincial Paper, Ltd., and the Thunder Bay mill of the Abitibi Power and Paper Company, A. P. Costigane, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, has returned to Toronto. "Speaking inclusively of Port and Fort William," said Mr. Costigane on his return, "in spite of the fact that, in some cases, market conditions do not warrant full production, the mills have neither forgotten the importance of accident reduction and prevention work, or have they let up in their activities in this regard. This fact is evidenced and emphasized by the statistical sheets issued by the Ontario Pulp and Paper Makers' Safety Association, which show considerable improvement over the same period last year." From Port Arthur and Fort William Mr. Costigane proceeded to Dryden, Ont., where he visited the mill of the Dryden Paper Company, Ltd., which he reports as having shown "during the past twelve months considerable improvement in the physical hazards of the mill." Kenora was also visited and the Kenora Paper Company's plant inspected. "The Kenora plant," he said, "under the direction of W. F. Schafer, superintendent of both this mill and also that of the Great Lakes Paper Company, who evinces a special interest in safety work, is now in the position that all physical hazards have been taken care of, with the possible exception of future hazards, due to replacements and changes." From Kenora Mr. Costigane went back to Port Aruthur where he joined J. E. Patterson, manager of operations for the Abitibi Power and Paper Company, and with him proceeded to Sault Ste. Marie, where the Abitibi's mill was thoroughly inspected and found in good physical condition.

Notes and Jottings of the Trade

William G. Brockway, lately of the American Tissue Mills, has been made manager of that company's Canadian branch, the Perkins Tissue Mills.

Many in the paper trade in Ontario were interested in the recent announcement of the marriage of Weldom F. McColm, a department assistant manager in the Price Bros., Ltd., pulp

and paper plant at Chicoutimi. The ceremony was performed at Newcastle, the bride being Miss Kathleen R. Mutch, of Newcastle.

Consideration of the intimate problems relating to workmen's compensation and accident reduction and prevention in connection with the paper mills of the Western group of pulp and paper mills was given at a well attended meeting of those mills within the Ontario Pulp and Paper Makers' Safety Association membership held at Port Arthur, Ont., recently.

Miss Betty Winlow, daughter of George C. Winlow, sales manager of Alliance Paper Mills, Ltd., head office Toronto, received the congratulations of many friends on her success in winning the silver cup in the open class outboard motors, which was the big event at the annual regatta at Honey Harbor, one of Ontario's popular summer resorts.

Well known in the British paper trade, and having many friends in Canada, Harry Horton-Stephens, printer and publisher, of Brighton, England, called on a number of paper men in Toronto last week.

Neil Powter and Lou G. Stone, of the Toronto office of the Howard Smith Paper Mills, Ltd., are holidaying in Quebec.

Charles Wood, of the Scott Paper Company, Philadelphia, well known to the Toronto paper trade of twenty years ago, was a caller on friends in Toronto a few days ago.

Charles Taylor, of Alliance Paper Mills, Ltd., has returned to the office in Toronto after an enjoyable outing in Northern Ontario. John Finlay, of the same staff is spending his holidays in Muskoka.

T. J. Allen, vice-president of Paper Sales, Ltd., Toronto, is spending a week or ten days at Burleigh Falls, Ont., a summer resort.

Charles E. Price, of Price Bros., is visiting a number of points in Ontario in company with a representative of Paper Sales, who represents the Quebec firm.

Bulk contract for erection of a skating and curling rink for the Spruce Falls Pulp and Paper Company, Ltd., at Kapuskasing, Ont., has been awarded to an Oshawa firm. Plans call for a rink 223 by 177 feet, wood walls, steel truss roof, corrugated iron sheathing, and a curling rink 175 by 33 feet, similar construction.

Erection of a factory on Wellington street, Hamilton, Ont., is contemplated by the Corrugating and Container Company, C. E. Marriott, manager. Property was recently purchased from the Canadian National Railways and it is stated that the building will not be proceeded with until early next year.

Vacant land on the north side of St. Clair Avenue, West Toronto, has been purchased as a site for a future plant for Offset Cartons Ltd., and Offset Print and Litho Company, Ltd., both of 21-3 Prescott Avenue, printers, lithographers and manufacturers of cartons and paper boxes of all kinds. According to France E. Galbraith, president of both firms, owners' present intention is to retain an architect early in 1931 with the intention of having plans prepared and work started later in the same year. The newly acquired site is immediately opposite the plant of the West Toronto Printing House, Ltd., 1943 St. Clair Avenue of which Mr. Galbraith is also president.

T. E. Gain, sales manager of the Ratcliff Paper Company, York street, Toronto, is spending his vacation with his family at Clevelands, Muskoka.

Portland Envelope Co. Leases Building

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 16, 1930.—The Portland Envelope Company, Portland, Oregon, subsidiary of the Intermountain Paper Company of Denver, has just completed a 20-year lease on a 100 x 100 foot building at East 8th and Grant streets. About $5000 will be spent by the company in remodeling the building to its special needs.

The Pacific northwest headquarters of the company are maintained in Portland with A. A. MacFraland as manager.

Simplification of Blotting Lines

The Albemarle Paper Manufaturing Company, Richmond, Va., is applying a simplification plan to its blotting lines which is attracting considerable attention. The plan is briefly described by the company as follows:

"Blotting manufacturers have in the past added new grades, new colors, etc. and in many instances have failed to eliminate old grades with the result that lines of blotting paper have become rather unwieldy and hard for the paper merchant to stock. During the early part of 1930 we made quite an investigation to determine just what could be done toward the simplification of blotting paper lines, and then applied the results of the study to Albemarle Blottings, with the result that on August 4 we announced to our paper merchant friends the new Albemarle Simplification Plan to take effect September 1.

"This simplification plan is nothing more than a reduction in the grades, colors, sizes, and weights of blotting paper in order to make the line thoroughly moderate yet adequate. In some of our grades as many as seven or eight colors have been eliminated, while in others one or two colors have been added to make the lines more complete. We were before the simplification making five grades of uncoated blotting—World, Hollywood, Reliance, Eldorado, and Verigood, ranging in quality in the order named. Under the new plan we are making only three-grades, World, Reliance, and Verigood, thus providing a No. 1 Blotting, an intermediate grade, and a low priced competitive sheet, and a the same time eliminate two grades. The brands World and Reliance were the original brands of the Albemarle Paper Manufacturing Company, and in each event is approximately 45 years old. We feel that an added sales inducement is added the line by the retention of the old names.

"In addition to the revamping of the grades and colors we have also devised a new method of packing. Blotting in the past used to be tied with strings and these strings often cut through the edges of the blotting, thus spoiling the stock. In addition the blotter was hard to get to on the paper merchants' shelves, and small quantities were hard to take out of the package. We have devised a new packing which has all the advantages of a carton, yet is less expensive and for which the materials can be produced in our own kraft paper mills.

I. P. Co. Repairs Dam at Fort Edward

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., August 18, 1930.—The task of repairing the breaks in the dam owned by the International Paper Company here, was completed late last week after which the water was again turned into the Hudson River from the gates which had been holding the flow for several days. The weakened condition of the apron of the dam necessitated considerable calking and over ten tons of waste materials were utilized. The dam has caused frequent interruptions in operations in recent years and the belief prevails that it will not be able to withstand the pressure of the Hudson for many months. Since the mill was changed from a news print to a bond mill, there has been much gossip regarding construction of a new dam and power plant and the recent trouble leads to the impression that the project is almost a certainty. It is said that actual construction is being held up in order to find out first the disposition the New York Power and Light Corporation intends to make of its holdings near Hudson Falls.

It was announced here this week that the International Paper Company will sponsor an evening technical course this year in pulp and paper making at both the Fort Edward and Corinth plants. The state educational department plans to aid by providing competent teachers and it was said that a good enrollment is only required to make the night classes a success. The classes will be organized on or about November 1 and lessons will be given in each course until January. A similar plan will also be introduced at the Piercefield plant.

Boston Paper Market Only Moderately Active

August Business Reflects Seasonal Conditions to Great Extent — Fine Paper Division Experiences Keen Competition—Box Board Orders More Numerous Than of Late — Paper Stock Market Generally Quiet With Prices Little Changed

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 18, 1930.—While there has been a fair amount of business in the paper industry here during the last week and merchants are generally optimistic, the volume as a whole is not any too satisfactory. In the fine paper division there is considerable comment in regard to keen competition. A prominent member of the New England Paper Merchants Association, in discussing the situation, says: "In Boston the paper market, as a rule, shows less activity in August than in any other month of the year.

This year August business will probably reflect the seasonal conditions to as great an extent as we have seen for several years, but no more so and probably not as much as general business. The small volume is not of as much consequence as the more decided slump in profits. In their desire to try and keep volume as near normal as possible some seem to forget the fact that it still costs money to do business and that the smaller the volume the greater the percentage of cost. If everyone would entirely ignore volume and remember that all business should be conducted at fair profit or not at all, the unusual seasonal decline would be much less distressing and the recovery much quicker."

Kraft Paper Prices Steady

Percy D. Wells, a dealer in fine paper, says "business is good when you find it and there is a little better tone." Kraft prices are steady, with a quiet to fair market. Some of the manufacturers say that the demand is gradually improving. Orders for box board are placed in a slightly better volume. Quotations continue the same.

The paper stock market has been generally quiet during the week under review. No. 1 soft white shavings have been in some demand at 2.50 @ 2.60 f.o.b. Boston; similarly white blank news at 1.50 @ 1.60. The price of old domestic manila rope has been reduced, with buyers offering a flat 3.50 f.o.b. Boston, compared with a previous range of 3.50 @ 3.75. Roofing rag prices are unchanged, but the trend is upward.

New Freight Arrangement Effective

By new arrangements which have just become effective after work of the New England Paper and Pulp Traffic Association, lasting three years, Western jobbers can now consolidate car loads of paper in New England. For instance, a car may be partly filled with paper at Lawrence, another quantity put on at Fitchburg, so that all the space is occupied, and the whole shipped at carload rates. The new arrangement will be of immense advantage.

News of the Trade

Cook-Vivian Company, Inc., have issued their August catalogue and price list of paper, cardboard and envelopes, which includes all their recent new lines and also lines carried at the mill. The book of 198 pages, substantially bound, contains valuable trade information and leaves for memoranda.

The August "How," published by Tileston & Hollingsworth Company and edited by A. V. Howland, contains articles of special interest to the printer, an analysis of the current calendar sheet and other valuable items. This number is printed on Wove Gray Crinoline Plate, with Gray Crinoline Cover.

Carter, Rice & Co., Corporation have just sent out to engravers and stationers a folder reprint of an advertisement in the August 16 issue of *Vogue* in regard to Strathmore weddings and social announcements, accompanied by an "As Seen in Vogue" display card. This full-page advertisement is the first of a series appearing in *Vogue* during the pre-wedding season.

The Arnold-Roberts Company is handling the Art-in-Industry Cover, made by the Advertisers Paper Mills, Holyoke, Mass., and has prepared sample books, dummies, sheets, etc.

Worthy's new Hand and Arrows line, handled by Arthur E. Ham & Sons, has been received with the greatest enthusiasm, although other lines of the manufacturers of this paper have moved well. Prospects for this product appear very bright.

Bird & Son, Inc., East Walpole, Mass., have closed their board mill for two weeks, giving their help in this department a two weeks' vacation.

Arthur W. Blackman, president of D. F. Munroe Company, president of the National Paper Trade Association, has returned from a two days' conference in New York City in connection with association work.

Floyd H. Blackman, secretary of D. F. Munroe Company, has gone to Chichseter, N. H., for a two weeks' vacation at his summer home.

G. H. Buhrman, of Amsterdam, Holland, who transacts considerable business with the Dutch East Indies, paid a friendly call at the office of Storrs & Bement Company last week.

E. S. Barker, treasurer of Arnold-Roberts Company, has returned from a vacation at Wolfeboro, N. H. accompanied by his family. Sidney Evans, of the same company, has returned from a vacation in New Hampshire.

Albert Eckert, secretary, George M. Graves Company, Inc., has gone on a two weeks' vacation, including Niagara Falls and the Middle West.

N. S. Clark, president of Knight, Allen & Clark, Inc., has gone to Gilmanton, on Crystal Lake, N. H., until after Labor Day. His family are passing the summer there.

Horace B. Sargent, president of E. Butterworth, Inc., left today for a vacation on Cape Cod, accompanied by Mrs. Sargent and daughter, Miss Bettina.

E. C. Walker, salesman for the Whiting Paper Company, Holyoke, Mass., who has been ill for a considerable period, was greeted by his friends in the Boston trade last week.

Gordon Blanchard, sales manager of the Crocker-McElwain Company, Holyoke, Mass., and Mr. Clark, of the McLaurin-Jones Company, Brookfield, Mass., called on the trade last week.

Plans are being drawn for the addition to the boiler house at the Gardiner, Me., plant of Hollingsworth & Whitney.

Water Power Development at Peak

A mid-year review of the progress of water power development in Canada by the Minister of the Interior, indicates that at the present time hydro-electric construction amounts to a figure greater than at any previous period in the history of the Dominion. Installations aggregating more than 1,680,000 h.p. are under active development from coast to coast. Many of these installations comprise the initial stages only of the respective undertakings, and when such plants have reached their ultimate designed capacities a further 2,000,000 h.p. will be added to the Dominion's total. The Royal Bank estimates that the expenditure on these undertakings will amount to $100,000,000 a year for the next three years.

Obituary

William Noble Brunaugh

The words of eulogy which are customarily written about those who have gone will mean little to the friends of "Pete" Brunaugh . . . . and to those who did not know him, words are futile things to picture his personality, friendliness, and his marvelous good humor.

William N. Brunaugh was born July 24, 1883, in St. Louis. His boyhood days were spent in San Antonio, Texas, and Marshall, Missouri. At the age of seventeen he went to work for the Cupples Company, and at nineteen he commenced his travelling and selling career, which took him to all parts of the country and gave him friends everywhere he went. His territory at that time was the Southwest, particularly Texas. It is interesting to know that he was the third generation of Brunaughs to travel in Texas, his grandfather and uncles also having covered the territory for the Cupples Company.

After having been with the Cupples organization for four years he joined the Diamond Match Company and travelled for them throughout the Southwest. He later represented the Wayne Woodenware Company of St. Louis and the Graham Paper Company of St. Louis. He also travelled for the Republican Bag and Paper Company of New York, covering a territory from Winnipeg to New Orleans.

In 1909 Mr. Brunaugh went to California, with the Zellerbach Paper Company, travelling for them until 1920, when he became manager of country sales. He left the Zellerbach organization to join Blake, Moffit and Towne of Los Angeles, with whom he remained for about four years.

In the Spring of 1927 C. W. Hamilton, president of the Milwaukee Lace Paper Company, invited him to become sales manager. It was in this capacity and with this firm that he found perhaps the fullest expression of his abilities and his personality. Here for the first time his scope was national and his wide acquaintance became even wider.

"Pete" Brunaugh's death was very sudden. He played golf with his son on Friday and Saturday, July 4 and 5. His health in every respect seemed excellent, but that Saturday night he was overtaken with extreme pains. On Monday morning an operation for appendicitis was decided on, but the appendix was found to be in a gangrenous condition. Although everything seemed to be going well, his heart failed him. On Wednesday, July 9, at about 4:45 p.m., W. N. Brunaugh died.

He is survived by his mother, who resides in Los Angeles, and by his wife and two children. No more fitting memorial could be erected than that which he himself has left in the memories of those who knew him.

Herbert V. Clark

[FROM OUR REGULAR CORRESPONDENT]

MALONE, N. Y., August 18, 1930—Herbert V. Clark, 69 years old, prominent paper manufacturer of Northern New York and one of the organizers of the Malone Paper Company, died this week at his home in this city following a brief illness. He had suffered for some time from high blood pressure and early this week he lapsed into a coma from which he failed to rally.

He was regarded as one of the leading business men in this section. In 1900 with two brothers he organized the Malone Paper Company which grew rapidly under his guidance. Mr. Clark served in the capacity of president since its formation, assisted by L. F. Lehr as vice president and general manager. At about the same time the same interests, with J. A. Outerson, of Carthage, organized the De Grasse Paper Company, at Pyrites, which was disposed of a few years ago to the *New York World*.

For a number of years he served as postmaster at Dexter besides serving several terms as president of the Board of Education. He was also prominent in politics besides being identified with numerous other business enterprises in Northern New York.

John McWhirter

John McWhirter, for the past 25 years the Chicago representative of the Bergstrom Paper Company, Neenah, Wis., died Saturday, August 2 at his home at 2300 Sherman Avenue, Evanston, Ill., after a lingering illness. He is survived by his widow, Mrs. C. Belle McWhirter and three children, Mildred E. and Donald B. of Evanston and Mrs. D. F. Gibbs of Park Ridge, Ill.

Mr. McWhirter had been active in the paper industry over 45 years at the time of his death. He was associated with the Linden Paper Company and the Valley Paper Company of Holyoke, Mass., for many years before going to Chicago.

Miami Mill Men Expect Improvement

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, August 18, 1930.—Trade leaders in the Miami Valley, notably those located in Middletown, this week took an optimistic view of conditions, industrially.

Colin Gardner, of the Gardner and Harvey paper mill interest, declared this month should see the worst of the depression. "After the first of September, with fall business coming on, there should be a gradual improvement," he asserted, "I am most optimistic."

Similar views were shared by other members of the trade in the Paper City and this opinion was similarly voiced in Dayton, Hamilton, Franklin, Piqua, Troy, West Carrollton and other mill centers.

As tending to confirm this view in other lines, Charles R. Hook, president of the American Rolling Mill Company, Middletown, said: "We, at the mill, are of the opinion that the bottom has been reached in the business depression and there are definite indications of the start of an improvement." He said the unfortunate drouth throughout the country may be a deterring factor for a time.

Edward Sebald, president of the Middletown Bankers Association, said: "We have reached the bottom. Depression in business will soon have passed. Stocks are low, replenishment soon will begin, and when it does, we will all 'come back,' not with a rush but with a lasting and gradual success."

The mill machinery interests also have been greatly encouraged, and paper mill improvements are of the most substantial kind. Several Miami Valley manufacturers of various grades of paper have taken advantage of the lull in trade to make repairs and renovations and to plan for future building and equipment improvements.

Ralph L. Day Joins American Writing

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., August 14, 1930.—Ralph L. Day has joined the sales force of American Writing Paper Company, Inc., and will be associated with their Boston office. Mr. Day comes to the Eagle-A organization from the Arnold-Roberts Company of Boston, having been connected with the latter house for over ten years. During his wide experience in paper merchandising, Mr. Day has had ample opportunity to become acquainted with the advantages of the Eagle-A lines and policies, as the Arnold-Roberts Company are one of the original Eagle-A Service houses. Mr. Day's many friends in Boston and vicinity will be interested in this change and also to learn that his time will not be devoted solely to straight selling. He will also be engaged in sales-service for the printer and advertiser friends of the big Eagle-A organization.

This work will be carried on in Boston both by Dr. Day and Bernard McGrath, who has been with American Writing Paper Company, Inc., for the past four years.

Chicago Paper Market Spotty and Irregular

Prevailing Conditions Brought About Largely By Exceedingly Periodic Trend of Converting Business—Fine and Coarse Paper Sections Only Moderately Active—News Print Paper Picking Up—Book and Cover Papers Seasonally Quiet

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., August 18, 1930—A spotty condition continues to prevail in the Chicago paper market. One week many business firms report an unusual amount of orders and the next week report only a very small amount of business. This up and down condition is brought about largely, say executives, through the fact that the converting business is exceedingly periodic and stocks are down to practically nothing. Orders are coming in to fill only bare necessities and any small demand at all immediately creates a lively condition which is, of course, recognized as the up side of the spotty market. There are many times when representatives here report business at standstill and other times when they are unable to get goods fast enough.

The fine paper field has an eye on certain manufacturers meetings to be held in the near future which will doubtless give a good line on which way the wind is blowing. Jobbers in Chicago in the coarse paper business are urging their customers to order now in order that inventories may show sufficient stock to take care of fall business without too much dependence on the hand-to-mouth policy. News print is expected to pick up within the next few weeks but conditions here, too, are reported spotty. Book and cover papers are seasonally quiet. Waste papers, the higher grades, are reported to be continuing active.

Chicago Paper Salesmen's Activities

The Chicago Division of the Salesmen's Association of the Paper Industry will begin its regular series of weekly noon luncheon meetings on the Monday following Labor Day with the first scheduled for September 8. Although no program for this luncheon is announced it is expected that a definite program for the big October meeting will be formulated. Already, according to Harold Knott, president, Bishop George Craig Stewart, chaplain of the association, has been secured to give the main address at the noon meeting on October 7 during the week of the National Paper Trade meeting in Chicago. Meanwhile, the golf committee, under the direction of Frank Prentiss, of Hollingsworth & Whitney, is making arrangements for its August golf tournament at the Tam O' Shanter Golf Club on Thursday, August 21, and for the big final event of the year—the wind-up at the Wilmette Country Club on September 18. At this time the inter-division competition will take place, an event that always attracts considerable attention from salesmen in every city.

News of the Trade

The Chicago Paper Association is scheduled to hold its next regular meeting at the Bismarck Hotel on August 26. At that time it is expected that general business conditions will form a large part of the conversation with, however, much attention turned on the Fall meeting of the National Paper Trade Association, to be held at the Stevens Hotel, Chicago, the week of October 6.

One of the feature displays of the Illinois Chamber of Commerce at the Illinois State Fair, Springfield, the week of August 18, will be that of products manufactured from agricultural raw materials. This will include a comprehensive display of the National Cornstalk Processes, Inc., and an exhibit of wall board, etc., which that company makes.

The J. W. Butler Paper Company, in line with plans for the coming Chicago World's Fair, has announced a new watermarked bond paper to help give stimulus and publicity to the "Century of Progress Exposition," in 1933. The watermark is illustrated with a representation of the entrance to the Exposition with the words underneath, "Chicago Invites the World." The watermarked bond is expected to be popular with individuals and firms interested in using every method to boost the Exposition and the bond is designed to further this use.

The Chicago Paper Company has issued its new price list which is featured by the loose-leaf make-up which permits the sending out of new and revised prices on sheets that may be inserted to keep the list up-to-date. The list is bound in red Fabrikoid, embossed and stamped in gold. The general make-up of the issue has created quite a bit of favorable comment in the Chicago market.

Chicago Pump Company announces the addition of Mr. H. G. Ragan to their list of representatives. Mr. Ragan has offices in the Brandeis Theatre Building, Omaha, Nebraska, and will handle all pump business emanating in that territory.

Cansom-Gravure, distributed by Bradner, Smith & Co., is given quite a send-off in a recent advertising piece sent out by that company. "A new and effective process looks its best on paper," is the interesting title. A reproduction of a black and white photograph is shown on one page of the folder with a statement on the opposite page concerning results obtained by using "Sheet-fed gravure printing on the right side of the paper."

W. McNulty, president of the McNulty Paper and Twine Corporation, of 535 West Chicago Avenue, Chicago, celebrated the fortieth anniversary of his birth on August 16 by entertaining forty guests at one of the clubs of which he is a member.

To Develop Georgia as Paper State

ATLANTA, Ga., August 16, 1930.—Plans for creating a better market for Georgia naval stores and developing the manufacture of paper out of Georgia pines were discussed at a meeting of the Georgia Foresty Association held at the Atlanta Athletic Club Friday of last week. The meeting was presided over by T. G. Woolford, president of the association, who entertained the directors and about seventy-five others at a luncheon.

United States Senator William J. Harris was honor guest at the luncheon, and told the organization of the experimental work the Federal Government is doing in the manufacture of newsprint paper from Georgia pine.

"The newspaper publishers of the United States spend more than a hundred million dollars each year for Canadian manufactured paper and I have no doubt but that the Georgia mills, if erected, would get a large part if not the bulk of this business," the senator attested. "Georgia mills could ship all over the country much easier than can the Canadian mills, and the paper produced here, I am sure, would be of a higher grade."

"Ever since becoming a member of the trade commission I have been interested in seeing Georgia made a paper-producing state," he said. "It has taken the government agencies some years to definitely learn that paper can be produced here and I now firmly believe that the state soon will have such a great industry."

Senator Harris also reported to the association that the Federal Government still is ready to match two dollars for every dollar put up by the state government for forestry preservation and for reforestation.

"This year I think the appropriation for Georgia was $104,000 as compared to the $52,000 expended by the state," he said. "Next year we are going to get more. The people at Washington are just beginning to realize what a great asset Georgia forests are."

Kimberly-Clark Corp. to Expand Lakeview Mill

New Additions to Neenah Plant Will Be Constructed Immediately—Two Story Building Is to Be Used For Pulp Storage—One Story Structure Will House Machine Shop—Amount of Space Secured By Recent Enlargements Was Inadequate

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 18, 1930.—Although the Kimberly-Clark Corporation made extensive enlargements to the Lakeview mill at Neenah, Wis., when it was acquired recently, the amount of space is still inadequate. Immediate construction will take place therefore of two more additions. One will be a two story building of fireproof construction 60 to 150 feet in size. This will be used for pulp storage. The other is a one story structure 50 by 60 feet in size, to house a machine shop. Approximately $75,000 will be expended for these additions.

Moloch Foundry Issues Bonds

First mortgage bonds to the amount of $100,000 are being issued by the Moloch Foundry and Machine Company, Kaukauna, Wis., one of the large machine plants in the Fox River Valley paper district. The funds will be used to retire indebtedness incurred last year in the construction of a new steel foundry, and for current working capital. The plant is now equipped to make castings up to 10,000 pounds in commercial electric steel or alloy steel. About $200,000 was spent in 1929 for the new plant, including an electric steel foundry, the only one in the southern part of Wisconsin. Additional machine shop equipment costing $75,000 also was added. Net profits for the last three years were $29,009.72, $23,657.06 and $34,743.70, respectively, according to R. M. Kanik, president.

Consolidated Water Power Improvements

Additional operating and storage space will be provided at the main mill of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., through building operations soon to be started. A two-story unit will be added to the mill, 75 by 108 feet in size. Four one-story units also will be built to enlarge present departments. These are 14 by 122 feet, 27 by 56 feet, 19 by 32 feet, and 25 by 28 feet, respectively. Day labor will be used on the work, which will cost approximately $100,000.

International Awarded Pulp Wood Contract

No portion of the government pulp wood contract in Southern Colorado will be given the Combined Locks Paper Company, Appleton, Wis., according to a decision of the federal forestry office. The objection entered by the company has been overruled and the International Paper Company, New York, will be permitted to cut the entire allotment of 2,000,000 cords at a price of $5.500,000. The cutting will be done over a period of twenty years. The Combined Locks Company protested the contract, because its bid was for a higher price to be paid the government for the pulp wood on a large quantity than that of the International. The demand was that the contract be split between the two companies.

Another Federal Forest Proposed

Establishment of another federal forest of 190,000 acres in Wisconsin is being encouraged by the Nekoosa-Edwards Paper Company. The land is located in Ashland county and is now on the delinquent tax list. The county board has approved the proposal and will present it when the national forest reservation committee meets in the fall. It may be that Price and Sawyer counties, whose lands ajoin, may offer delinquent tax property to be added to the total. J. B. Nash, of the paper company, presented the matter to the Ashland county board. He said his company was interested in seeing this done, because their own large nurseries are adjacent to this property and are always exposed to fire danger. A federal forest would mean adequate fire protection to the privately owned region as well.

Action was especially urged because of the large number of forest fires raging in Wisconsin during the last few weeks during a period of drought. Very little timber was destroyed because the fires were mostly in the slashings and cutover sections, but some of the valuable stands were endangered and were saved by immense fire fighting crews.

Fort Howard Holds Annual Outing

Employes of the Fort Howard Paper Company, Green Bay, Wis., took a Saturday off a week ago to hold their annual picnic. There was an attendance of approximately 1,000. An entire day was spent in amusements at a local park, followed by dancing in the evening. The company provided refreshments and had some of its officials conduct the program of contests and other entertainment.

Mill Fireman Burned at Stevens Point

Flames shooting out from a smelting furnace at the plant of the Stevens Point Pulp and Paper Company, Stevens Point, Wis., caused burns to Valentine Blawat, one of the mill firemen. He was burned about the face and hands and was confined to the hospital. His condition is not serious, however.

News Print Production for July

Production of news print in Canada during July, 1930, amounted to 216,978 tons, and shipments to 209,511 tons. According to the News Print Service Bureau, production in the United States was 102,840 tons and shipments 103,018 tons, making a total United States and Canadian news print production of 319,818 tons and shipments of 312,529 tons. During July, 25,426 tons of news print were made in Newfoundland and 632 tons in Mexico, so that the total North American production for the month amounted to 345,876 tons.

The Canadian mills produced 40,002 tons less in the first seven months of 1930 than in the first seven months of 1929, which was a decrease of 3 per cent. The United States output was 20,170 tons or 2 per cent less than for the first seven months of 1929. Production in Newfoundland was 20,684 tons or 14 per cent more in the first seven months of 1930 than in 1929 and in Mexico 2,377 tons less, making a total decrease of 41,865 tons or 2 per cent.

During July, the Canadian mills operated at 71.3 per cent of rated capacity, United States mills at 72.8 per cent and Newfoundland mills at 106.2 per cent. Stock of news print paper at Canadian mills totalled 52,862 tons at the end of July and at United States mills 29,284 tons, making a combined total of 82,146 tons which was equivalent to 4.8 days' average production.

To Reopen George C. Gill Div. Mill

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., August 19, 1930.—Plans are being completed for the reopening of the George C. Gill Division of the American Writing Paper Co., Inc., which has been closed down for the past two or three years. The 154 inch machine which proved to be a sort of Jonah was sold some months ago to a midwest concern. In its place a 110 inch machine for the manufacture of coarse box board paper will be installed. When the mill is opened and running full about 100 hands will be empoyed. It is hoped to get the division in operation by next month.

New York Trade Jottings

Champagne Paper Corporation has been chartered under the laws of the State of New York with a capital stock of $20,000.

* * *

Norman S. Meese, assistant chief of the Paper Division of the United States Bureau of Foreign and Domestic Commerce, Washington, D. C., was a New York visitor early this week.

* * *

New York Produce Exchange has admitted to trading 750,000 common shares, $10 par, of the Consolidated Paper Company, of Monroe, Mich.

* * *

Lathrop Paper Company, Inc., of 155 Perry street, New York, has recently added to its lines Mural Cover, manufactured by the Marvellum Company, of Holyoke, Mass.

* * *

Samples of hand made paper, of exceptionally high grade quality, made at the Lime Rock mill of Dard Hunter, Inc., may now be seen at the offices of R. S. Kellogg, secretary of the News Print Service Bureau, 342 Madison Avenue, New York.

* * *

The West Virginia Pulp and Paper Company entertained a party of New York printers last week. After inspecting the Mechanicsville, N. Y., mill the party motored to Saratoga, where they attended the races.

* * *

Melrose Paper Stock Company, Inc., announces the removal of its general offices to the Terminal Building, 215 East 149th street, New York, the main warehouse of the company continuing at 20 East 133rd street, New York.

* * *

R. S. Kellogg, secretary of the News Print Service Bureau, has returned to his headquarters in the Canadian Pacific Building, New York, after a 26,000 mile automobile tour on which he was accompanied by Mrs. Kellogg. During his extensive trip Mr. Kellogg visited news print mills in Maine, Nova Scotia and New Brunswick.

Digester Explodes at Burgess Plant

BERLIN, N. H., August 16, 1930—Two employes were killed and seven others were burned, five critically, in an explosion in the eight-story plant of the Burgess Sulphite and Fibre Company, owned by Brown Company, on August 12. The blast was heard for miles and aroused the countryside. It is believed that the total loss will reach $1,000,000.

Investigation revealed that the blast followed about one hour after the night shift reported for the night's work, the plant being operated in three shifts day and night. The explosion occurred in one of the 19 54 feet high digesters. Pulpwood was being prepared in this digester for mash from which rayon was to be manufactured. One side of the building collapsed as the digester exploded.

Norwegian Paper Production Declines

WASHINGTON, D. C., August. 13, 1930.—Norwegian industries are experiencing difficulty in operating at full capacity, although in the case of paper it is hoped that the curtailment in production will only be temporary, according to a radiogram just received from Commercial Attache Lund, at Oslo. Paper exports during the month of June show a considerable decline, news print shipments totaling 12,300 metric tons while other paper shipments amounted to only 9,900 tons. During the same month 19,400 tons of chemical pulp and 49,700 tons of ground wood were shipped abroad.

Taggart Paper Bag Co. Adds Machinery

WATERTOWN, N. Y., August 18, 1930.—Following receipt of a new machine this week at the plant of the Taggart Paper Bag Company in this city, it was reported on good authority, that the company had taken over the business of the Cornell Bag Company, at Pittsfield, Mass. The machine was sent here from the Cornell factory and is to be used in the production of standard bags. Officials of the local concern would not confirm the report that the Pittsfield plant has been acquired although it is understood that the remainder of the machinery previously owned by the Cornell Company has been shipped to other mills controlled by the Taggart interests.

The Taggart plant in this city is now operating on full time as are virtually all other branches in neighboring cities. The Oswego branch is operating with a normal working force while similar conditions prevail at the plant of the Bates Valve Bag Company. Only recently the Oswego plant was operated on night schedules because of a rush order calling for 50,000 bags from the Solvay Process Company. Approximately 300,000 bags are being turned out daily at the various branches with indications that capacity operations will prevail for a long time.

The new machine received here produces paper bags open at one end, whereas the local plant has been almost exclusively engaged in turning out bags automatically sealed by means of a flap at one end after being filled. In previous years, the plant produced a large number of sewed bags but the work now is confined entirely to pasted paper bags. The branch at Herrings is being used now in producing the sewed bags for cement and other products. It was also announced that the local plant has a large number of orders booked but the rate of production varies each week. A new record was established in July, when over 3,000,000 bags were turned out at the Watertown plant.

Walter Ryan Jr. Goes With Chope-Stevens Co.

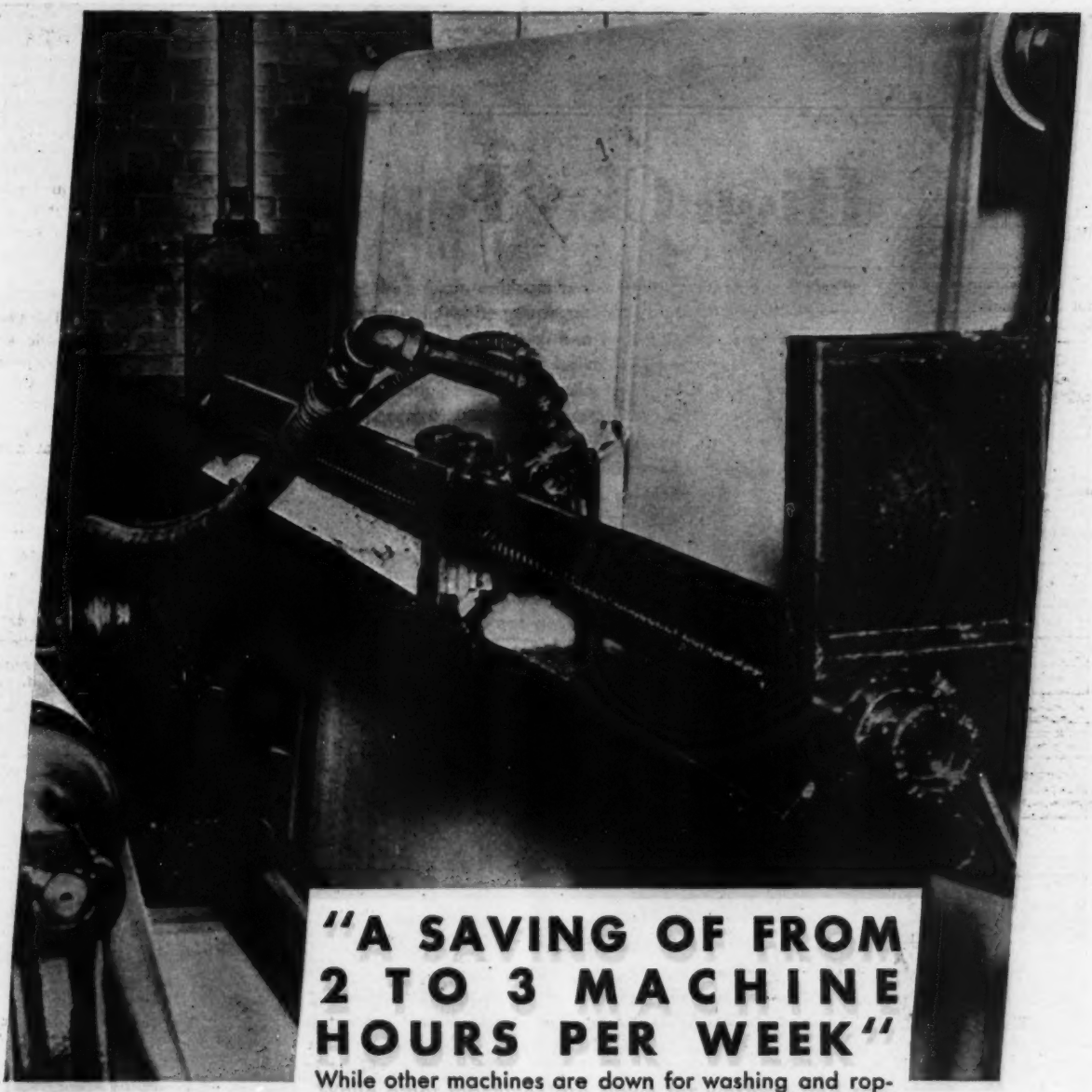
DETROIT, Mich., August 18, 1930.—As a step forward in bringing a closer understanding between the user of paper, his printer and the paper producer . . . the Chope-Stevens Paper Company have just sent out a statement saying, "It is our pleasure to announce the addition to our staff of Mr. Walter Ryan, Jr., whose inception in the paper business was originally with the Dill & Collins Paper Company, of Philadelphia. Mr. Ryan has an extensive background of experience with several of the foremost paper houses of the country. His most recent connection being The Alling & Cory Company. He will act as counselor and assist in the answering of paper problems among our clients. You will find him extremely helpful to you in an advisory capacity. Mr. Ryan's services will be available at all times to the printer, advertising agency, advertiser and all users of paper."

Japanese Paper Production for May

WASHINGTON, D. C., August 13, 1930.—The Japanese Paper Manufacturers' Association reports an output of 58,888 short tons of paper and board by the association mills during the month of May, bringing the total for the first five months of the current year up to 286,191 tons. Sales during the same period totaled 282,809 tons. Newsprint paper represents between 35 and 40 per cent of the total production, while other printing papers represent an additional 20 to 25 per cent. The Japanese mills also manufacture considerable quantities of wrapping, writing papers and boards.

Norwegian Endeavor to Effect Settlement

WASHINGTON, D. C., August 20, 1930—The trade union of the Norwegian paper industry has stopped negotiations for the renewal of contracts and has announced cessation of work from August 15. It is expected, however, according to reports received here, that the official arbitrator will prohibit stoppage of work and endeavor to effect a peaceful settlement between the mills and their workers.



"A SAVING OF FROM 2 TO 3 MACHINE HOURS PER WEEK"

While other machines are down for washing and roping of felts, machines that are equipped with Vickery Felt Conditioners are busy making paper. One mill reports: "... we estimate a saving of from 2 to 3 hours per week by the elimination of shut downs."

Give your machines the advantage of felts that are always clean and fresh. Try a Vickery Felt Conditioner at our expense.

The VICKERY FELT CONDITIONER

BIRD MACHINE COMPANY

SOUTH WALPOLE ◆ MASSACHUSETTS

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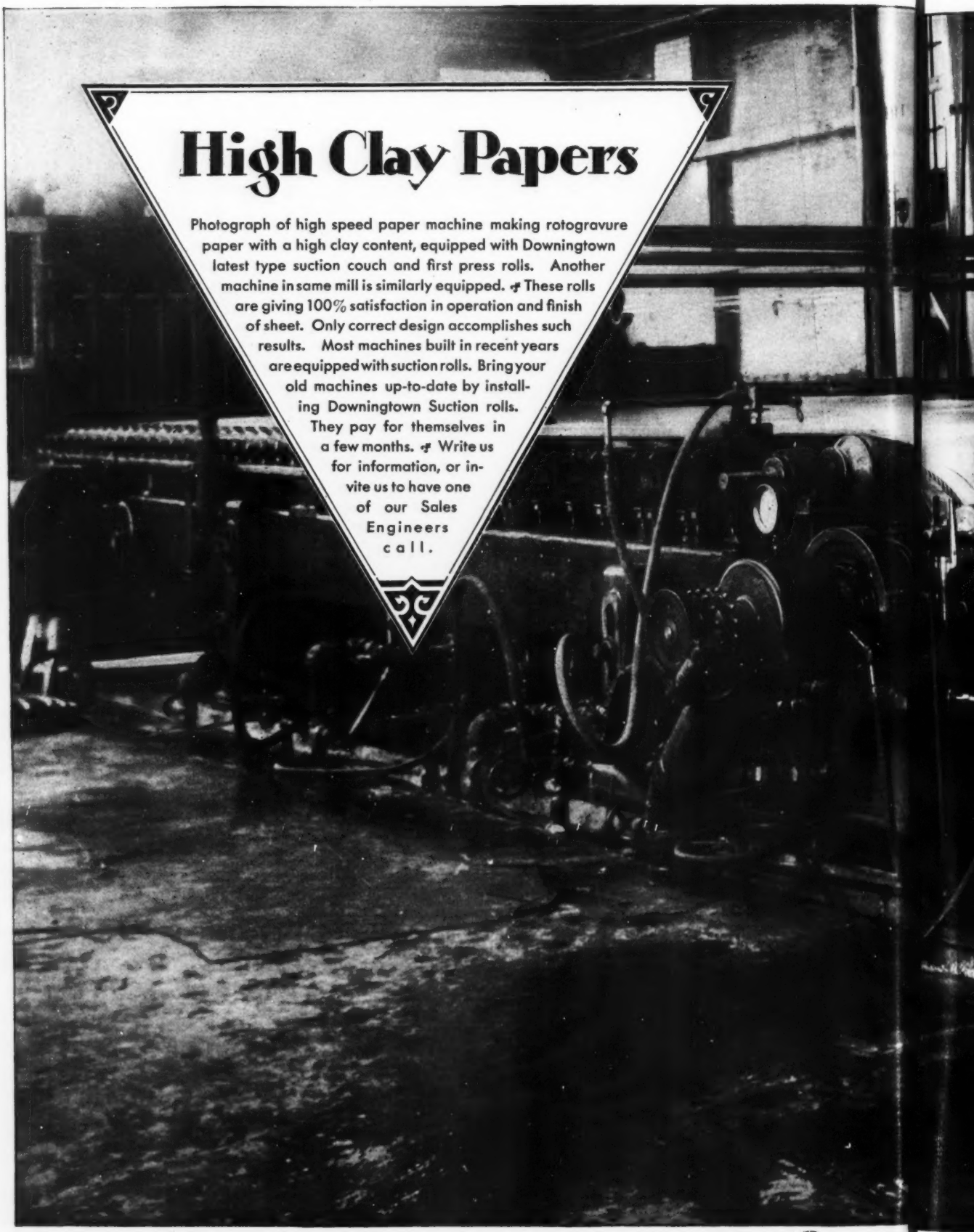
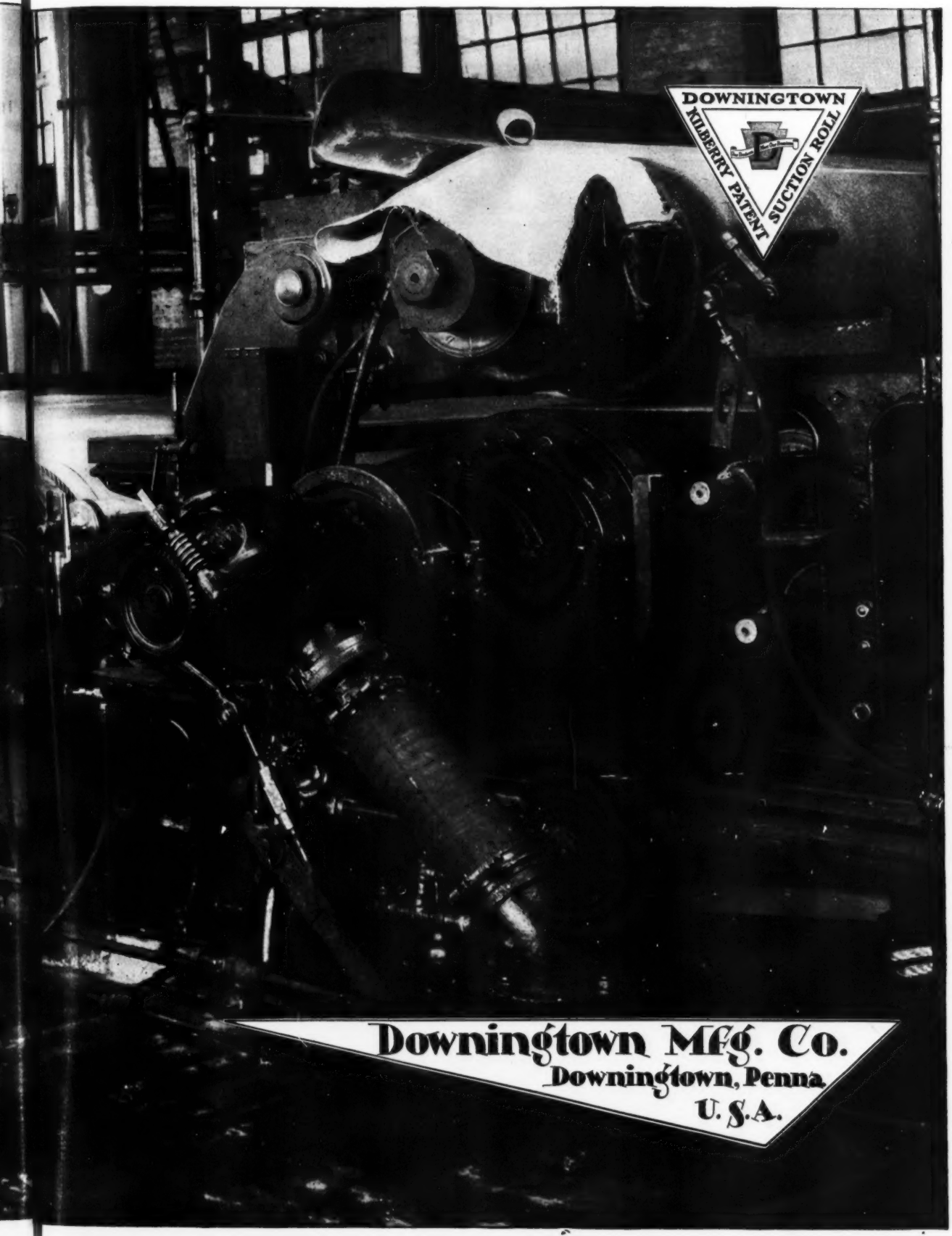

High Clay Papers
Photograph of high speed paper machine making rotogravure paper with a high clay content, equipped with Downingtown latest type suction couch and first press rolls. Another machine in same mill is similarly equipped. These rolls are giving 100% satisfaction in operation and finish of sheet. Only correct design accomplishes such results. Most machines built in recent years are equipped with suction rolls. Bring your old machines up-to-date by installing Downingtown Suction rolls. They pay for themselves in a few months. Write us for information, or invite us to have one of our Sales Engineers call.


DOWNINGTON
KILBERRY PATENT
SUCTION ROLL
Downingtown Mfg. Co.
Downingtown, Penna.
U.S.A.

Erie Ready for Tappists

Preliminary plans for the fall meeting of the Technical Association of the Pulp and Paper Industry on September 3-5 have been completed, according to Henry F. Obermanns, general superintendent of the Hammermill Paper Company and chairman of the TAPPI Erie Meeting Committee.

Aside from the excellent papers to be presented the various local committees have arranged a series of very inviting entertainment features and inspection trips which will undoubtedly make a lasting impression on the attending members and their guests.

All Aboard for Canada

One of the features of the meeting will be the moonlight ride across Lake Erie to Port Dover, Ontario, on the large comfortable steamer "Keystone." This is a delightful trip. Dinner will be served on the boat and there will be music, dancing and other entertainment features. In addition to these, provision is being made to enable the various newly organized Technical Association committees to hold conferences for the purpose of getting better organized and prepared for the future work. A description of the committee and divisional fields were recently outlined in the Paper Mill and PAPER TRADE JOURNAL. The further success of this plan of organization will depend to a large extent on the self-generated enthusiasm and interest of the members of the Association. Anyone wishing to take an active part in the committee work should correspond with or see any officer or committee chairman. Although it is desirable to keep the committees' size within certain limits, it is much more important to have as many really interested members as possible participating in this work. The committee meetings will therefore be open to any and all who may wish to attend them. Since the boat ride will probably take six or more hours, it is evident that much can be accomplished and still have plenty of time for the lighter part of the program.

Presque Isle Outing

Friday afternoon, the last day of the convention, is given over entirely to sports and recreation. Golfers will find an excellent course on which to test their ability. The new Lake Shore Country Club with eighteen holes plus has received the unqualified endorsement of such players as Walter Hagen and Horton Smith and will be available for the use of association members and guests during Friday afternoon. Suitable prizes will be awarded to those winning the various matches which have been arranged. The golf committee wish it to be known that anyone who can carry a golf club is eligible and *may win*. Come to Erie, you professionals, amateurs and tyros.

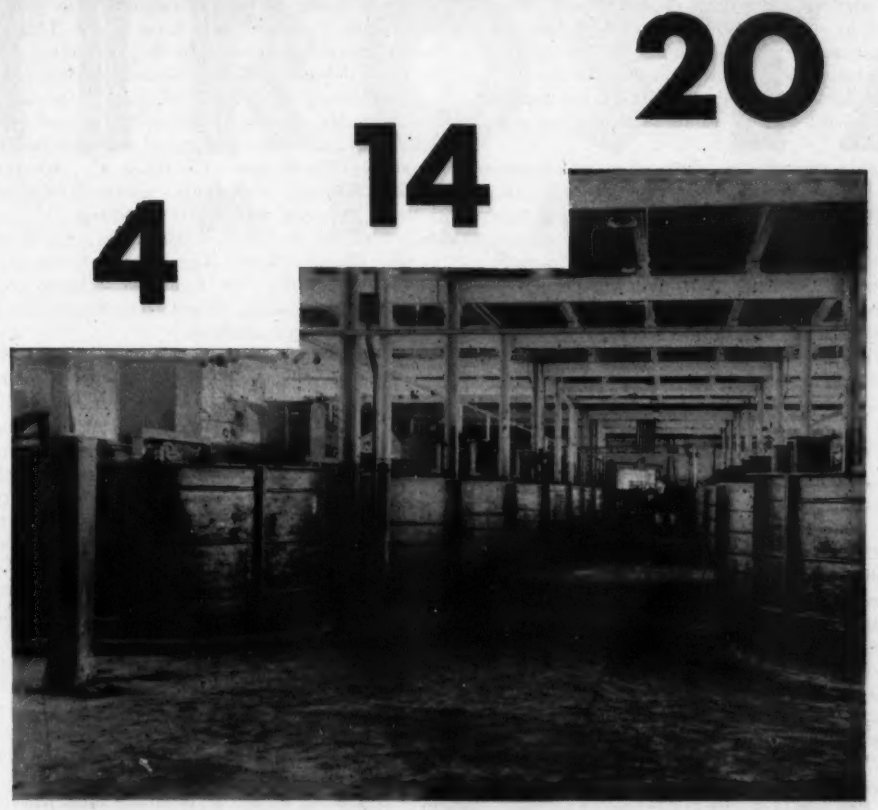
For those who do not desire to participate in golf, the State Park on Presque Isle peninsula offers unexcelled bathing facilities. A quoit tournament will be featured, horseback riding on the various bridle paths will be available and then there is the great State Park itself with its winding paths and the 3200 acre tract of virgin wilderness and lagoons to explore. In the late afternoon, a huge fish fry of the famous Lake Erie white fish will be prepared and served at the Peninsula. It is planned to schedule this event sufficiently early to permit departure on the early evening trains for those who desire to leave.

ERIE WORKS OF THE GENERAL ELECTRIC CO.

Industrial Plant Visits

The Erie Works of the General Electric Company and the Hammermill Paper Company will hold open house during two of the three afternoons to the entire group. Before visiting the General Electric Company, a complimentary luncheon will be served in the plant restaurant. The Hammermill Paper Company is host to the Technical Association members at a dinner to be given at the conclusion of the second day.

The General Electric Company has apparatus factories in Lynn, Pittsfield, Bridgeport, Bloomfield, Schenectady, Fort Wayne and Erie. One of its outstanding developments during recent years has been the sectionalized electric paper machine drive with full automatic control. It manufactures other equipment of interest to the pulp and paper industry. The photo-electric cell method



More Beater Capacity Means Better Paper !

From four Beating Engines to fourteen and then an addition of six more, making a battery of twenty 2000 lb. Beaters within a period of two years —that's the story of one of the largest paper mills in the East.

Before the mill was in production, they realized that "your paper is made in your Beaters" and ordered ten additional Beaters. With fourteen Beating Engines, it produced better paper and sixty to seventy tons daily production. Now with its twenty Beating Engines, it produces paper which is better than ever and ninety to one hundred tons daily production.

The last six Beating Engines installed were Dilts Improved Iron Tub Beaters. The other Beaters are not ours, but are of a well-known make and of modern design.

Install more Beaters if you would make more and better paper. Ask for our recommendations.

— Dilts —

MACHINE WORKS Inc. FULTON, N.Y.

"Your Paper Is Made in Your Beaters"

for measuring the running thickness of paper and the color analyzing machine are of particular interest. The Erie G. E. Works, which will be visited by members of the Technical Association is devoted to the manufacture of all kinds of railway apparatus, including railway control, railway car equipments, railway motors, railway and industrial locomotives, transformers, crane and hoist and mill motors and several sizes of all steel cabinets for electric refrigerators.

Opportunity will be given also to visit other manufacturing plants in Erie. The H. F. Watson Company, a division of the Ruberoid Company, manufactures roofing and insulating papers, mill board and allied products. Among the supply and equipment concerns are the Kalbfleisch Corporation, Erie Forge and Steel Company, Burke Electric Company, Northern Equipment Company, Erie Malleable Iron Company, Skinner Engine Company, Bucyrus-Erie Company, Erie City Iron Works and Standard Stoker Company. Many billboard and circus posters used throughout the country are printed by the Erie Lithographing and Printing Company, one of the oldest and largest lithograph plants in the country.

Ladies' Entertainment

Plans are being made for a large attendance of visiting ladies at the fall meeting of the Technical Association of the Pulp and Paper Industry to be held on September 3, 4 and 5, at Erie, Pennsylvania. A very attractive and recreational program has been arranged by the Ladies' Committee under the direction of Mrs. M. A. Krimmel. Announcement has just been made of the various events on this program as follows:

WEDNESDAY. Ladies' Committee meets visiting ladies in the morning at the Hotel Lawrence. Complimentary luncheon with the association members at the Erie Works of the General Electric Company, to be followed by an inspection of the plant. In the evening, there will be a boat ride across Lake Erie to Port Dover, Ontario. Dinner will be served on the boat. Entertainment, music, dancing will be enjoyed during the ride to and from Port Dover.

THURSDAY. Motor drive to Hunter's Lodge through Glenwood Park and Erie's newer residential districts, followed by a card party. Luncheon will be served at the Lodge. In the afternoon the entire group will visit the plant of the Hammermill Paper Company. The ladies will meet for dinner at the Pussy Willow Tea Room, after which there will be a theatre party.

FRIDAY. The new Strong-Vincent High School, a magnificent structure just completed for the forthcoming academic year, will be visited by the ladies in the morning. Luncheon will be served at the Lake Shore Country Club, where golf and other games will be enjoyed by all during the afternoon. Other forms of recreation, such as bathing in Lake Erie, quoits, hiking, etc., will be available at the wonderful State Park on Presque Isle Peninsula, one of the most scenic spots on the Great Lakes. A huge fish fry, prepared on the Presque Isle Peninsula, will be served in the evening.

Ladies' Committee

Members of the Committee assisting Mrs. Krimmel in entertaining the visiting ladies include: Mrs. J. A. Bowers, Mrs. H. B. Dawson, Mrs. P. W. Herrick, Mrs. H. M. Holmes, Mrs. F. P. Klund, Mrs. Earl E. Neubig, Mrs. H. F. Obermanns, Mrs. J. L. Parsons, Mrs. C. H. Reese, Mrs. A. O. Spierling, Mrs. C. R. Tait and Mrs. N. W. Wilson.

By Auto to Erie

The Erie County Motor Club has announced the best routes for TAPPI members and guest motoring to Erie as follows:

CHICAGO TO ERIE: (500.0 miles) On Route 20. Chicago, Michigan City, South Bend, Elkhart, Lagrange, Angola. On Route 107. Montpelier. On Route 2. Archbold, Wausen, Maumee. On Route 20. Fremont, Bellevue, Norwalk, Elyria, Cleveland, Painesville, Ashtabula, Conneaut, Erie. The above route is entirely paved with the exception of a few miles of good gravel through Indiana.

CINCINNATI TO ERIE:— (360.0 miles) On Route 42. Cincinnati, Waynesville, Xenia, London, Delaware, Mt. Gilead, Mansfield, Ashland, Lodi, Medina, Stronsville. On Route 20. Cleveland, Painesville, Ashtabula, Conneaut, Erie. This route is all paved and in good condition with the exception of one short detour between Delaware and Mt. Gilead. In fair condition.

COLUMBUS TO ERIE: (263.0 miles) On Route 3. Columbus, Sunbury, Mt. Vernon, Loudonville. Route 60 to Haysville and back again on Route 3, to avoid detour between Loudenville and Wooster. To Medina. On Route 42. Strongsville. On Route 20 at Cleveland, Painesville, Ashtabula, Conneaut, Erie. This route is all paved and in good condition.

PITTSBURGH TO ERIE: (153.0) miles) On Route 8. Pittsburgh, Butler, Slippery Rock, Harrisville. On Route 58. Grove City, Mercer, Greenville. On Route 18. Hartstown, Conneaut Lake, Conneautville, Albion, Girard. On Route 20. Fairview to Erie. All paved in good condition.

PHILADELPHIA TO ERIE: (410.0 miles) On Route 422. Philadelphia, Norristwon, Pottsville. (Short detour to Reading.) Lebanon, Middletown, Harrisburg. On Route 11. Dauphin, Clarks Ferry. On Route 22. Millerstown, Mifflintown, Lewistown, Mt. Union. Route 322. Huntingdon, Water St. Tyrone, Phillipsburg, Clearfield, Grampian, Reynoldsville, Brookville, Clarion, Cranberry. On Route 8. Oil City, Titusville, Union City. On Route 6. Waterford, Erie. Entirely paved and in good condition.

WASHINGTON TO ERIE: (365.0 miles) On Route 240. Washington, Rockville, Gaithersburg. About 10 miles beyond, turn right on Route 29 to Ridgeville. Route 40 to Frederick. Route 11 to Hagerstown. Route 16. Greencastle, Mercersburg, Cove Gap. Turn right to avoid detour. To Ft. Loudon. McConnelsburg. Route 522. Mt. Union. Follow route from Philadelphia to Erie.

NEW YORK CITY TO ERIE: (475.0 miles) On Route 9 to Peekskill. On Route 17. Bear Mt. On Route 6. Goshen, Middletown, Port Jervis, Milford, Carbondale, Scranton, Tunkhannock, Wyalusing, Towanda, Troy, Mansfield, Wellsboro, Galeton, Coudersport, Smethport, Mt. Jewell, Kane, Warren, Corry, Waterford. All new concrete. Excellent condition with exception of two-mile bad dirt stretch in the town of Corry.

SPRINGFIELD, MASS., TO ERIE: (485.0 miles) On Route 5 to Northampton. On Route 109 to Goshen. Pittsfield. On Route 66. Rensselaer. On Route 5 to Albany. On Route 20 to Duanesburg, Cherry Valley, Cazenovia, Syracuse, Auburn, Geneva, Canandaigua, Avon, Geneseo, Warsaw, East Aurora, to new Southwestern Boulevard, avoiding Hamburg and Buffalo. Straight through to Farnham. On Route 20 to Silver Creek, Fredonia, North East. All paved. Good condition, avoiding heavy traffic.

WATERTOWN TO ERIE: (300.0 miles) On Route 3. Watertown, Adams, Pulaski, Mapleview, Oswego, Wolcott, Rochester. On Route 2. Avon. On Route 20. Geneseo, Warsaw, East Aurora, striking new Southwestern Boulevard and avoiding Buffalo. To Farnham. On Route 20 again to Silver Creek, Fredonia, North East. All good pavement. No detours.

Tentative Program

(The time given on this program is Eastern daylight saving time.)

WEDNESDAY—SEPTEMBER 3

9:00 A. M.—Registration, Hotel Lawrence.
10:00 A. M.—Business meeting; papers, discussion in the ball room of Hotel Lawrence.
1:15 P. M.—Complimentary luncheon, Erie Works of the General Electric Company.
2:15 P. M.—Inspection of General Electric Plant.
6:00 P. M.—Boat trip to Port Dover. Dinner, dancing, card playing, committee meetings, and entertainment on boat.

THURSDAY—SEPTEMBER 4

10:00 A. M.—Papers and discussion in ball room of Hotel Lawrence.
1:00 P. M.—Luncheon.
2:30 P. M.—Visit to Hammermill Paper Company.

NIROSTA

METAL

RICH WITH NEW POSSIBILITIES FOR PULP AND PAPER MILLS

With the advent of Nirosta there comes a new and powerful servant for paper and sulphite producers in their fight against the problems of corrosion and contamination. » » No other material or metal can compare with Nirosta in practical value for paper and sulphite machinery. » » Its resistance to corrosive attack is amazing. It is remarkably immune to acids, even at high temperatures and pressures. » » Nirosta can be deep-drawn, wire-drawn, spun, forged, cast, machined and welded. » » It is by long odds the most dependable material for wire, for beaters, strainers, Hollander knives, doctor blades, digesters, cooling coils, piping and kindred uses. » » Only Nirosta will give true Nirosta results. Write to Nirosta headquarters for full information. KRUPP NIROSTA COMPANY, INC., Offices and Exhibit Room, 2638 New York Central Bldg., New York.

NIROSTA METAL PROVIDES MAXIMUM DUCTILITY AND RESISTANCE—ONLY OBTAINABLE WHEN PROCESSED UNDER KRUPP NIROSTA PATENTS BY THESE LICENSEES:

ACME STEEL COMPANY
AMERICAN FORGE CO.
THE BABCOCK & WILCOX TUBE COMPANY
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THE CALORIZING COMPANY
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CRUCIBLE STEEL COMPANY OF AMERICA
DETROIT SEAMLESS STEEL TUBES CO.
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THE NEWTON STEEL CO.
THE OHIO SEAMLESS TUBE CO.
PACIFIC FOUNDRY CO., LTD.
PENNSYLVANIA FORGE CORP.
PITTSBURGH STEEL COMPANY
REPUBLIC STEEL CORPORATION
SHARON STEEL HOOP COMPANY
SIDAWINIGAN STAINLESS STEEL & ALLOYS, LIMITED
SPANG-CHALFANT & CO., INC.
ST. JOSEPH ELEC. STEEL CASTINGS CO.
STANDARD ALLOY COMPANY
THE STANLEY WORKS
SUMMERILL TUBING COMPANY
WM. J. SWEET FOUNDRY CO.
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TEXAS ELEC. STEEL CASTINGS COMPANY
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"NIROSTA" AND THE INTERLACED TRIANGLES ARE THE TRADE-MARKS FOR HIGH-CHROMIUM NICKEL STEEL ALLOYS PRODUCED UNDER PATENTS OF KRUPP NIROSTA COMPANY, INC.

7:00 P. M.—Hammermill Paper Company complimentary dinner (informal).

FRIDAY—SEPTEMBER 7

9:00 A. M.—Papers and discussions in ball room of Hotel Lawrence.

12:30 P. M.—Luncheon at Hotel Lawrence.

Afternoon—Recreation—Golf tournament at Lake Shore Country Club, quoit tournament, horseback riding, bathing, hiking, baseball, etc., at State Park on Presque Isle Peninsula.

6:00 P. M.—Fish fry at Peninsula and distribution of prizes.

Technical Program

Considerable attention has been paid this year to the quality of the papers to be presented and this has resulted in a technical program of unusual merit.

On Wednesday morning the association will hold a business meeting at which time the members will vote on the Articles of Organization amendment providing for the formation and regulation of territorial sections. At the same time any committees having testing methods to propose as tentative official Technical Association standard methods will present them and committee reports will be presented.

In accordance with the new divisional and committee plan, the papers to be presented will be considered to be sponsored by appropriate committees. Following are the papers to be read:

"The Razek-Mulder Color Analyzer" by Jackson Burgess of the Burgess-Parr Laboratory of Moline, Illinois. (Use Requirements Committee.)

"Color Matching with the Colorscope" by H. H. Sheldon, professor of physics at New York University. (Use Requirements Committee.)

"Bleaching Southern Pine Sulphate Pulp" by C. E. Curran, M. W. Bray and R. H. Doughty of the Forest Products Laboratory, Madison, Wisconsin. (Alkaline Pulping Committee.)

"Evaluation of Pulp Wood" by Bjarne Johnsen and Charles H. Reese of the Hammermill Paper Company. (Fibrous Raw Materials Testing Committee.)

"Isolation of Cellulose by the Chlorine Method" and "Determination of Chlorine Consumption of Pulps." These are chemical pulp testing procedures to be proposed as tentative official standard methods of the Technical Association. (Pulp Testing Committee.)

"The British Standard Method of Sheet Making and Testing" by James d'A. Clark of the Mead Corporation, Chillicothe, Ohio. (Pulp Testing Committee.)

"Evaluation of European Pulps" by W. F. Moore and W. R. Willets of the United States Testing Company, New York, N. Y., and the Western Electric Company of Kearny, N. J., respectively. (Pulp Testing Committee.)

"Coagulation Factors in Water Clarification" by F. E. Divine of the Hammermill Paper Company. (Waste Committee.)

"Continuous Vacuum Filters in the Closed White Water System" by A. O. Bragg of the Oliver United Filters Corporation, New York. (To be read by title.) (Waste Committee.)

"Air, Heat and Moisture Balance for the Paper Machine Room" by A. S. Goodrich and H. G. Brehme of the Hammermill Paper Company. (Heat and Power Committee.)

"Paper Machine Variables" by L. M. Yoerg and R. W. Pattison of the American Writing Paper Company, Holyoke, Mass. (Paper Manufacture Committee.)

"Automatic Consistency Control in the Paper Mill" by S. E. Meyers of the Merritt Engineering Company, Lockport, N. Y. (To be read by title.) (Paper Manufacture Committee.)

"Interconversion of Freeness Scales" by D. S. Davis of the Mead Corporation, Chillicothe, Ohio. (Stuff Preparation Committee.)

"Vapor Transmission Through Paper" by Allen Abrams of the Marathon Paper Mills, Rothschild, Wisconsin. (Paper Testing Committee.)

"Directional Designation in Physical Tests of Paper" by F. T. Carson and L. W. Snyder of the U. S. Bureau of Standards, Washington, D. C. (To be read by title.) (Paper Testing Committee.)

"Foundation of Modern Management Methods" by L. C. Reynolds of the American Writing Paper Company, Holyoke, Mass. (Management Methods Committee.)

"Paper Acidity Measurements" by B. L. Wehmhoff of the Government Printing Office, Washington, D. C. (Fibrous Raw Materials Committee.)

"Pulping Eastern Hemlock II. Effect of Temperature Schedules on Yield and Quality" by W. H. Monsson and G. H. Chidester. (Acid Pulping Committee.)

"Influence of Bleaching on Viscosity" by J. H. Ross and L. H. Yustin of the Forest Products Laboratories of Canada, Montreal, P. Q. (Research and Development Division.)

"Role of Medullary Ray Cells in Pulp and Paper Making" by George H. Ritter, F. A. Simmons and R. M. Seborg of the Forest Products Laboratory, Madison, Wisconsin. (Research and Development Division.)

"Consistency Determination by Absorption of Light" by O. M. Maass, H. W. Johnston and J. S. Hart of the Forest Products Laboratories of Canada, Montreal, P. Q. (Research and Development Division.)

The Fibrous Materials Committee is also planning to lead a discussion, if time permits, of the following subjects: acidity, viscosity of cuprammonium solution, copper number, alpha content, rosin and the soda soluble test.

"Custom House Guide" Issued

Containing the complete New Tariff Act together with a copyrighted special index of over 20,000 articles thereunder, alphabetically arranged compiled by Customs Experts, giving paragraph numbers and duty rates, this exhaustive annual of Foreign and Domestic Commerce will be particularly welcome this year. Locating commodities under the New Act itself is said to be no easy task and, if for no other reason, this reference work will prove invaluable as an authoritative and time conserver.

This definite contribution, practically three volumes in one, to American business development is edited by A. G. McCourt who for 25 years has served as Acting Deputy Collector of the U. S. Customs. He has been assisted by John F. Budd, well known student on Commercial Relations and Publisher of Technical Customs Books.

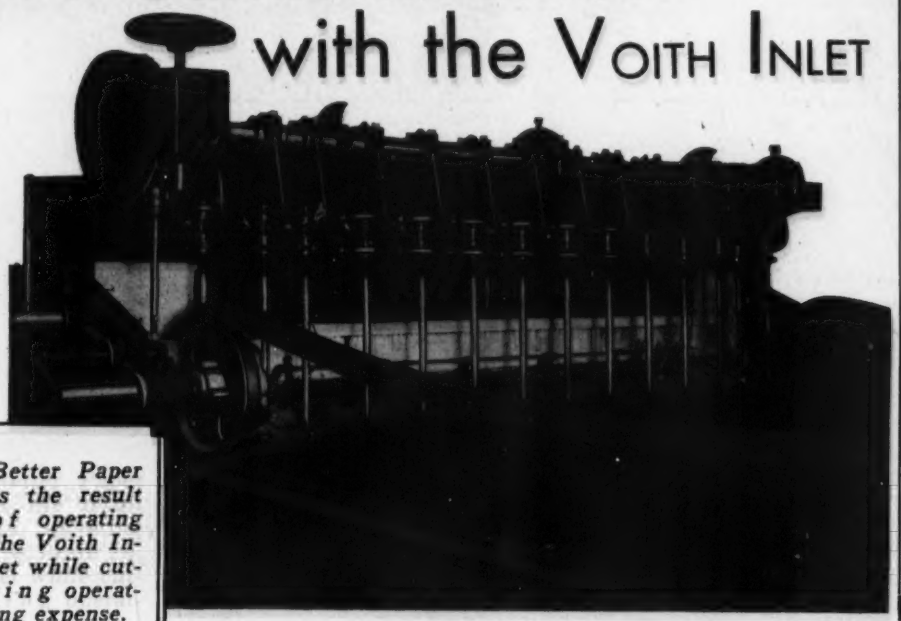
One Section of the work is devoted to comprehensive reviews of each principal port in the United States, Canada, Porto Rico, Virgin Islands and the Philippines, giving the Customs, Port and Trade Officials, Port Limits, Description and Charges, Marine Data and Facilities of each Port, in addition to a classified business directory of Warehousemen, Customs and Ship Brokers, Exporters, Importers, Banks, Railroads, Steamship Lines and Agents, etc.

Another section admirably covers the routine and formalities contingent upon Importing into the United States. Including here are Customs Regulations, General Order Rates, Government Departments and Officials, Weight and Measure Tables, Foreign Coin Values and Tables, Foreign Customs Headquarters, Trade Terms and Shipping definitions, and ready reference data for all allied trades.

Customs Tariff Section, containing the complete New United States Customs Tariff Act and a special index of over 20,000 individual articles, alphabeticallly arranged, giving specific paragraph numbers, duty rates, etc., for each article, the only one publisher compiled by Customs Experts.

Due to our re-awakening national interest in Foreign Commerce, this "Guide" should be increasingly consulted. The new edition is durably bound in cloth and comprises 1325 pages. It has appeared yearly since 1862 and is said to be the only Customs and Tariff annual of its kind. $5. Published by the Custom House Guide, Custom House, New York.

You Can *SPEED-UP* with the VOITH INLET



Better Paper is the result of operating the Voith Inlet while cutting operating expense.

288 installations now in operation in 142 mills throughout the United States and Canada.

——and still get better formation

You can reduce the cost of your paper—and at the same time improve formation—by installing Voith Inlets and speeding-up your machines.

You will derive other advantages: Changing deckles while the machine is running. Wires will last longer. One man can accurately control orifice opening in front of distributing roll. Heavy papers can be run at slow speed as well as light papers at high speed.

All of these things—together with more uniform caliper and better control of weight uniformity—go together to provide the vastly superior, all-around efficiency and decidedly lower cost per ton of output which you can expect from the Voith Inlet. 142 mills have found this to be true. You will too.

Address your inquiry to the Valley Iron Works Co., Appleton, Wisconsin.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Mfg. & Sales Div.: Smith & Valley Iron Works Co., Portland, Ore.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Fort Worth, Tex.—The Wisconsin National Fibre Can Company, 598 Clinton street, Milwaukee, Wis., manufacturer of fibre and paper containers, has plans under way for the construction of a new branch plant at Fort Worth, where site has been selected. The initial mill will be equipped for an output of about 5000 finished containers per hour, with majority of machinery of automatic operation. The new plant is reported to cost over $100,000, with equipment. It is understood that officials of the company propose to organize a new subsidiary under Texas laws to carry out the project. The company is affiliated with the National Paper Can Company, address noted at Milwaukee.

Seymour, Conn.—Pond's Extract Company, with headquarters in New York, has awarded contract to the Aberthaw Company of Boston for a two story addition at its Seymour, Conn. plant. This plant manufactures cleansing tissue.

Portland, Ore.—The F. C. Stettler Manufacturing Company, 300 Oregon street, manufacturer of folding paper boxes and containers, is said to be planning the early rebuilding of portion of plant, recently destroyed by fire with loss reported in excess of $500,000, including building, equipment and stock. Reconstruction is expected to cost close to a like sum.

Tacoma, Wash.—In addition to proposed new paper conversion plant at Seattle, Wash., recently reported, the St. Regis Paper Company, Watertown, N. Y., is said to be considering the construction of a new kraft paper mill unit on the tideflats at Tacoma, to be used in conjunction with the proposed mill at Seattle. The Tacoma plant will be of large proportions and is expected to cost over $1,000,000, with machinery. R. B. Maltby, vice-president, is in charge.

Philadelphia, Pa.—The Minnesota Mining and Manufacturing Company, Forest street, St. Paul, Minn., manufacturer of sandpaper and other abrasive materials, has concluded negotiations with the American Glue Company, 121 Beverly street, Boston, Mass., for the purchase of the plant and business of the Baeder-Adamson Company, a subsidiary organization, specializing in the manufacture of sandpaper, etc., with main plant at Alle gheny avenue and Richmond street, Philadelphia. The purchasing company is said to have given a consideration of about $2,000,000 for the property, and will take over at once. It is proposed to remove the Philadelphia works to St. Paul, where production will be concentrated and increased. The Baeder-Adamson organization will be operated as an affiliated interest. W. L. McKnight is president of the Minnesota company.

Berlin, N. H.—The Brown Company, Berlin, is said to be planning the early rebuilding of the portion of its pulp department destroyed by fire, August 12, following the explosion of a digester unit. The total loss is reported at more than $500,000, including buildings and machinery.

New Haven, Conn.—The National Folding Box Company, James street, is awarding a number of miscellaneous sub-contracts in connection with the construction of its proposed new addition, for which general contract was recently let to the E. & F. Construction Company, 94 Wells street, Bridgeport, Conn. An award for steel sash has been given to the Detroit Steel Products Company, Detroit, Mich.; fireproof doors, etc., will be furnished by the Coburn Trolley Track Company, New York. The unit will be four-story, 83 x 178 feet, and is estimated to cost about $175,000, with equipment, list of which has been arranged. It is proposed to push the structure to early completion. Fletcher-Thompson, Inc., 542 Fairfield Avenue, Bridgeport, Conn., is architect and engineer.

Kingsport, Tenn.—The Tennessee-Eastman Company, Kingsport, manufacturer of cellulose specialities, a subsidiary of the Eastman Kodak Company, Rochester, N. Y., has begun the erection of a new addition to its local mill, recently completed, to be used primarily for laboratory service, reported to cost over $40,000, with equipment.

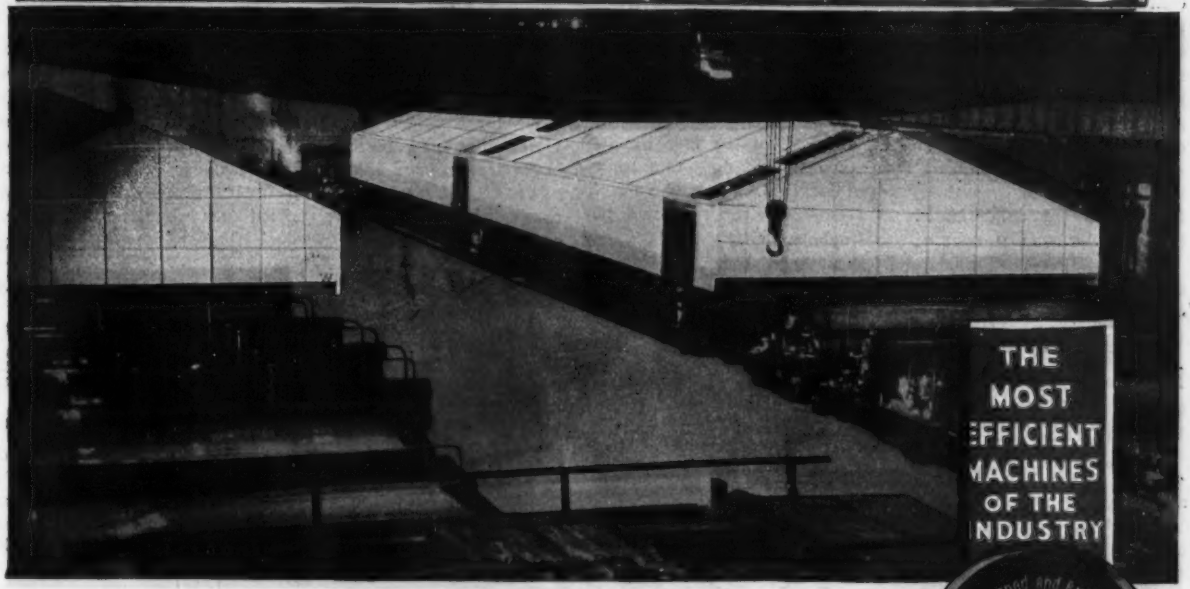
Los Angeles, Cal.—The City and Harbor Warehouse Company, 164 South Central avenue, Los Angeles, is planning for the erection of a new building at its property at Morman Island, Los Angeles Harbor, to be used for a conversion plant for company operations in fibre production. The new unit will be of one-story type, and is reported to cost over $75,000, with equipment. W. J. Saunders, 785 East Pico street, Los Angeles, is architect. Elmer C. Cord is general manager.

Philadelphia, Pa.—Becker, Smith & Page, Inc., Water street and Snyder avenue, manufacturer of wall papers, has filed plans for the erection of its proposed new mill addition, for which general contract recently was let. Work will begin immediately. List of equipment to be installed has been arranged. The expansion will consist of two units, two-story and four-story, respectively, 102 x 305 feet, and 75 x 133 feet, in order noted, estimated to cost about $200,000, with machinery, instead of a smaller sum previously noted in these columns. The Ballinger Company, Twelfth and Chestnut streets, Philadelphia, is architect and engineer.

Mobile, Ala.—Following the recent organization of the Continental Paper Bag Corporation, as a subsidiary of the International Paper Company, 220 East 42nd street, New York, the first noted company is said to be arranging an expenditure of about $250,000, in connection with the installation of equipment at the local kraft paper mill of the parent organization, for the manufacture of paper bags and containers. It is proposed to begin actual production at an early date, and develop a large output. W. N. Miller, Mobile, has been appointed local representative for the Continental company; A. H. Arington, Montgomery, Ala., is attorney.

Panama City, Fla.—The Southern Kraft Paper Company, Panama City, recently formed as a subsidiary of the International Paper Company, New York, has awarded a contract to the Ingalls Iron Works, Birmingham, Ala., for structural steel for the new power house to be built on the site, and work on the unit will be placed under way at an early date. It is under-

PACESETTERS



GREAT LAKES...

World's Largest Paper Machines

The mammoth 304" or 4 roll news machine of the Great Lakes Paper Co., Ltd., and its running mate, the 3½ roll machine, are convincing demonstrations of Bagley & Sewall designing and production capabilities. Where immensity of size could so easily develop "white elephant" character, these giant machines have proven their economic practicability.

Built and fitted with the highest degree of modern refinement, their performance records reveal interesting sidelights. Thirteen ton dryer rolls so poised that they can be spun by a hand; over all power savings of 15 to 20%; the immense dryer section of the larger machine started on but 45 H. P.; running action so free that the machine coasts eleven minutes after shut down; a consistent, steady outflow of paper that has broken all prior records — 350 tons of news in 24 hours;—all reflect careful designing and understanding construction.

Pace setters, indeed... with their tremendous tonnage of newsprint justifying the forethought and vision of their sponsors. Bagley & Sewall, with all due modesty, is proud to have been responsible for their creation.

The Bagley & Sewall Co.

Watertown, N.Y.

44

stood that a list of power equipment to be installed will be arranged at once, and awards placed. A considerable portion of the construction of the new mill and power house will be carried out on the day labor plan.

Philadelphia, Pa.—The Reyburn Manufacturing Company, 32nd street and Allegheny avenue, manufacturer of tags, labels, etc., is running on a normal production schedule at its plant, giving employment to regular working force, and expects to continue on the basis for an indefinite period. The company has secured an order from the Alabama State Board of Administration for 7,000,000 paper tags to be used in connection with the sale and distribution of fertilizers in the state, the tags to be delivered by November 15 next. The use of the tags by the state follows the agriculture code adopted providing that same shall be placed on every bag of fertilizer sold. They will be of 1½ and 3-cent denominations. Work on the order will be placed under way at once at the Reyburn mill.

Chicago, Ill.—The Panelstone Laboratories, Inc., 2456 George street, manufacturer of wall board products, has leased the one-story building at 4319 North Kedzie Avenue, 100 x 125 feet, and will occupy for expansion.

Detroit, Mich.—The Tullar Envelope Company, 2766 West Fort street, will expend about $50,000 for its proposed new plant unit, recently referred to in these columns, and on which work will be placed under way at an early date. It will be two-story, and will provide for considerable increase in present output. Stahl & Company, McKerchey Building, Detroit, are architects, in charge.

Port Alice, B. C.—The British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C., has work under way on the installation of new equipment at its mill, including a large barker and chipper, said to be the largest such units of their kind ever built. The barker is of heavy duty type and will have a capacity for handling logs up to 22 inches in diameter and 10 feet long. The entire installation will provide for large increase in raw material handling and is estimated to cost about $100,000. The barker unit is being installed by the Allis-Chalmers Company, Canadian organization, while the chipper is a product of the Pacific Mills Equipment, Ltd.

New Companies, Etc.

New York, N. Y.—S. Rappaport, Inc., has been incorporated with a capital of 200 shares of stock, no par value, to manufacture and deal in paper boxes, cartons, etc. The incorporators are Meyer Rappaport, and Alvin B. Rosenblatt, 1970 East Twenty-fourth street, Brooklyn, N. Y. The Albany Service Company, 299 Broadway, New York, represents the company.

New York, N. Y.—The Hoffman-Roberts Cordage Corporation has been organized with a capital of $25,000, to manufacture and deal in fibre products of various kinds. The company is represented by Randall, Larson & Hawkins, 149 Broadway, New York, attorneys.

Detroit, Mich.—The National Paper Products Sales Company, Reno, Nev., has filed notice of organization to operate in Michigan with a capital of 100 shares of stock, no par value. The company will be represented by J. R. Franco, 1627 West Fort street, Detroit, a company representative.

Chicago Pump Co. Issues New Booklets

The Chicago Pump Co., of 2336 Wolfram street, Chicago, Ill., has recently published two new pieces of literature on Centrifugal Pumps. An eight page pamphlet gives a digest of the more popular pumps, showing several different kinds and indicating their application. It is to be used for general distribution to those who do not need a great deal of detail but simply want a picture of a certain kind of pump. Another piece of literature shows the "Condo-Vac" Vacuum Pump and points out several important points of design which assures its sustained efficiency.

Capacities of Fisher Specialties

For the past several years there has been an urgent demand for accurate capacity charts and information on the flow of fluid through double seated valve bodies. The Fisher Governor Company, who have been pioneers in the development of many new types of control devices using this type of valve body, now announces to all industries the new Fisher Bulletin covering this information for all gases and liquids.

The chart and capacity data in this new bulletin are the results of more than two year's work by the Research Department of this company. In the complete line of The Fisher Governor Company's specialties, there are three main divisions of the different valve bodies. 1. Standard double ported bodies, bevel seated, semi-balanced inner valves. 2. Streamline double ported bodies, semi-balanced inner valves. 3. Fully-balanced composition disc double ported gas regulators. There, of course, are several other types of bodies, some of which come under the above headings.

In offering this new bulletin to all industries interested in this information, the Fisher Governor Company wishes to emphasize that this information is the result of actual tests conducted by the Fisher engineers. All formulas, constant, and curves have been developed and established by the Engineering Department.

With these charts, a prospective customer of Fisher Specialties can determine the exact size of control devices needed to handle the volume on the installation in question, and can, therefore, in any case, use a smaller valve than would regularly be purchased. Approximately 90% of all trouble on this type of valve is due to the units being too large for volume necessary to pass through it.

The Fisher capacity charts are made up in the form of alignment charts. The charts for the flow of gases are all based upon actual tests using air. There are specific gravity correction factors to allow the direct use of the charts for any particular gas. The gas capacities were conducted on the three main types of bodies. For steam there is a special chart applying to all Fisher standard bodies.

Liquids required entirely separate tests and formulas. These were also conducted in the Fisher Laboratory. The data has been refined to the most simple type of straight alignment chart and covers all conditions and various specific gravities. There is a special gravity correction scale to assist in the rapid use of the chart. All liquid tests are based on water.

The entire set of charts has been printed in the standard bulletin form to fit the Fisher Catalog. To obtain your copy, address The Fisher Governor Company, Marshalltown, Iowa.

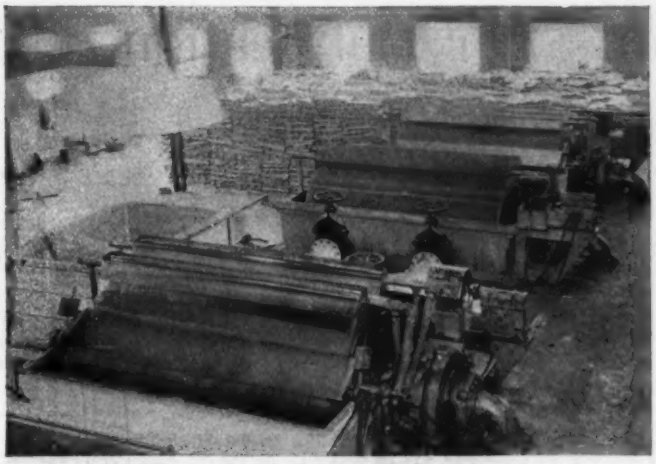
New Speed Reducer Catalogues

Gears and Forgings, Inc., Cleveland, Ohio, has just issued two new catalogues. Catalogue B-1 is a complete revision of the company's planetary line of speed reducers and Catalogue C-1 is a complete revision of the company's worm gear line of speed reducers. Both of the catalogues take up not only the construction and engineering data concerning the company's speed reducers, but also their application in industry. The company will be glad to send copies of both catalogues upon request to interested persons.

Repair Dam at South Glens Falls

GLENS FALLS, N. Y., August 18, 1930.—A large force of workmen are busy making repairs to the dam which supplies operating power to the South Glens Falls plant of the International Paper Company and the mill of Finch, Pruyn & Company. Late last week all water above the dam was shut off in order to allow the men to start work on Monday morning and the contract is being rushed to completion. For the past few years a large amount of baled hay and waste materials have been thrown behind the dam to prevent its leaking.

Who Said Oliver United Deckers Are Shy on Capacity?



HOW about 47 tons of groundwood fed at 0.45 consistency —all new stock—every twenty-four hours from an 8′ x 14′ (350 sq. ft.) Oliver Decker?

Or take another plant, quite distant, where a similar unit fed 0.47% stock is delivering 42.5 tons, of which thirteen tons are broke and white water solids. How about that?

Or how about an 8′ x 14′ Oliver Sulphite Decker that is handling 0.325 B. D. Stock at the rate of 5000 G.P.M. Better than 106 tons are deckered every 24 hours. Less than 0.08 lb. per 1000 gallons loss in filtrate.

Who said Oliver United Deckers are shy on capacity? Who said they are not the economical units to use for deckering any kind of stock?

AGENTS

TIMMINS, ONTARIO
B. D. Kelly
HALLE, GERMANY
Wilhelm Lill
SCHEVENINGEN, HOLLAND
and SOERABAIA, JAVA
Van Lelyveld & Co.
RECIFE, BRAZIL
Ayres & Son
JOHANNESBURG
E. L. Bateman
TOKYO
Am. Trading Co., Inc.
MELBOURNE
Fyvie & Stewart
HONOLULU
W. A. Ramsay Co.
MANILA
Edward J. Nell Co.
STOCKHOLM, SWEDEN
T. An Tesch

OLIVER UNITED FILTERS INC.

SAN FRANCISCO
Federal Reserve Bank Building

CHICAGO
565 Washington Blvd.

LONDON
150 Southampton Row

PARIS
T. L. Genter, Concessionaire
63 Ave. des Champs Elysees

NEW YORK
33 West 42nd Street

Factories
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POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

Lubricants For Lubrication

Oils—Greases—Special Compounds

Ignorance regarding effective means of overcoming unnecessary friction losses is costing the pulp and paper mills of this continent the price of millions of tons of coal annually. Maintenance and upkeep expenses are seriously aggravated and impose an even greater burden, as do the irreparable losses due to the costly shutdowns traceable in large measure to some failure of the lubricating system. In addition, there is the limitation upon production imposed by frictional curtailment of machine speeds. In the aggregate, the price paid for avoidable friction, chiefly journal, would be found to be fairly staggering could it be properly appraised.

This does not mean necessarily that the mills should be more lavish in their use of lubricants. On the contrary, many mills are footing a considerable bill for lubricants and securing in return relatively little lubrication. The lubricant, while it may possess excellent lubricating qualities, may not be suitable for its application. It may even be quite unsuited for the demands made upon it. Also, of course, the lubricant may be of an inferior grade. As a rule, however, the lubricant has not been properly selected for the service, conditions and provisions are not suitable for its proper application or, as frequently is the case, the conditions have changed. The wear of journals and bearings may be a contributory cause, bearings may be of poor design, climatic conditions may have to be reckoned with and other influencing considerations taken into account.

The question of proper lubrication in its entirety is indeed a complex and intricate problem well deserving of considerably more consideration than it was accorded in the old days and, particularly, by those mills where haphazard lubrication still persists. The modern mill is better off, of course, than the older type of mill, but even the advanced mill has lubrication problems which require constant attention, if preventable friction losses are to be safeguarded against, even under normal changes in operating conditions and requirements.

The fact that many mills are now equipped more or less completely with sectionalized electric drives has provided an excellent opportunity of conducting highly illuminating tests and studies on the power consumption of individual equipment units, sections of machines, etc., with lubricants of different viscosities and other characteristics. A great deal of very valuable information has been secured in this way, for, as a rule, comparative power consumption is a pretty definite indication of comparative lubrication efficiency. The mills where such tests have been conducted have benefited most, naturally, for conclusions based upon comparative tests, valuable as they may be, must make allowance and correction for all variables may be apparently quite afield and still exert considerable influence upon the results secured. Unless the results are understood and correcty appraised, consequently, the conclusions, apparently sound, may actually be quite misleading.

[1] For other discussions on lubricants and lubrication, see Paper Trade Jour., Jan. 26, 1928, Jan. 17, 1929, and July 4, 1929.

Comparative tests conducted in the same mill with the same lubricants under what were similar, if not identical, conditions during different months of the year have shown variability quite apart from the climatic effects on the lubricants. An investigation and examination of the records of power consumption over a series of years brought to light a steady seasonal variation conforming with the temperature of the water in the supply river. The same situation exists at many another mill, doubtless, and might easily introduce a question of doubt in regard to the suitability of a particular lubricant.

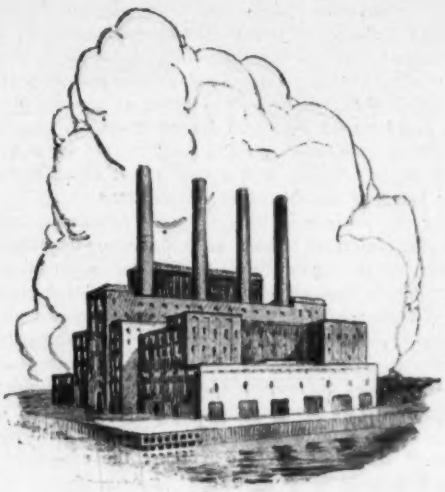
The accumulation of paper dust, some of which will work into the bearings, is one of the distinctive evils with which a paper mill has to contend. At the St. Lawrence Paper Mills Company, Three Rivers, Que., this trouble was circumvented by the installation of an efficient system of closed flood, or stream feed, lubrication, whereby the lubricant circulates continuously in its confined path and is constantly filtered. During several years of operation of this modern forced feed lubricating system, no bearing trouble developed and very little lubricant was consumed. To capitalize upon the investment in full, nevertheless, the right grade of the correct lubricant has to be used and properly applied.

In many another mill, while the installation of such a system of stream feed lubrication might be very advisable on several counts, the investment entailed is not considered justified, yet such mills are still in useful operation and the use of suitable lubricants by them is quite as essential as by a more modern mill. Almost every mill, in fact, presents a distinct and individual problem when it comes to the question of suitable lubrication and every mill can well afford to give more attention to its selection, application and use of lubricants. In order to do so intelligently, however, the essential properties of a good lubricant must be appreciated and some familiarity acquired with available lubricants and with their suitability for general, if not specific, applications. Such knowledge is indispensable, in fact, to satisfactory mill conduct, for every refinement in mill equipment and in operating practices can yield full returns only when the lubrication, existing or contemplated, is suitably adjusted to the improved situation.

Essential Properties of Suitable Lubricants

The function of a lubricant is simply to separate bearing surfaces which move upon one another and to confine so far as possible such friction as is unavoidable to molecular friction within the body of the lubricant itself. Quite irrespective of the particular service demanded of a lubricant, consequently, it should possess eight quite essential properties in order to function effectively. These are: body, or viscosity, sufficient to prevent contact of bearing surfaces; freedom from corrosive acids; as much fluidity as is consistent with its body; high flash and burning points; freedom from ingredients liable to cause gumming or oxidation; tenacity; and durability.

World Leadership in High Pressure Boilers



The following Babcock & Wilcox Boilers for 1200-1400 pounds pressure are in service or being made for the companies listed below:

American Gas & Electric Company: United Gas & Improvement Company — Deepwater 6
W. S. Barstow & Company, Incorporated Holland 2
Consolidated Safety Valve Company—Bridgeport 1
Edison Electric Illuminating Company of Boston—Edgar 5
Jersey Central Power & Light Company—South Amboy 3
Masonite Corporation—Laurel 2
Milwaukee Electric Railway & Light Company—Milwaukee 1
Pacific Gas & Electric Company—San Francisco 3
Houston Lighting & Power Company—Houston 2
State Line Generating Company—Hammond 6

To date there are 31 Babcock & Wilcox Boilers, either in service or being built, that will deliver steam at 1200-1400 lbs. pressure. These boilers are for use in eight central power stations and two industrial plants.

The first unit built for 1200-1400 lbs. pressure in central station service was a Babcock & Wilcox, ordered by the Edison Electric Illuminating Co. of Boston in 1923. The success of the first unit prompted the purchase of four more, two in 1926 and two in 1928.

The Babcock & Wilcox Company has led and continues to lead the world in the commercial development of high pressure boilers for power plant service.

THE
BABCOCK & WILCOX
COMPANY

85 LIBERTY ST. NEW YORK, N. Y.

G27

So far as commercial lubricants are concerned, these exacting requirements virtually limit suitable lubricants to oils, greases and the special lubricants evolved by lubricant producers, lubricants which can hardly be classified as either oils or greases, but which possess the essential properties of these more familiar lubricants developed to a somewhat higher degree. The lubricants having to be durable and stable, the suitable oils are with only a few exceptions petroleum products and the greases compounded with the chief ingredient mineral oil.

Suitable Oil Lubricants

The eight essential properties of an effective oil lubricant are dependent upon five characteristice by which the oils are commonly classified; specific gravity, flash point, fire point, cold test and viscosity. These characteristics of distinction alone cannot guarantee the quality of the oil for lubricating purposes, however, for the oil may contain ingredients which tend to neutralize these merits and cause considerable trouble. Simple tests will, as a rule, reveal the presence of objectionable ingredients and it is well to conduct such tests on any lubricant of unknown quality. The familiar acidity test will instantly disclose the presence of any free acid; the evaporation test, the stability of the oil; the presence of animal fats can readily be detected and a heating test will give evidence of the thoroughness with which the oil has been refined.

The suitability of an oil for a particular lubricating purpose cannot be so simply ascertained, however, and reliance must ordinarily be placed upon service records, known qualities and upon the recommendation of lubricant experts. Obviously, a special oil cannot well be found for each condition of service, but suitable lubricants for classes of service can be secured without difficulty from any oil refiner of standing and experience. The refinement in selection between oils of a given class required for best results entails, however, knowledge and experience far beyond the average and herein lies the danger of making specific recommendations and one explanation, at least, of why so many mills and other industrial consumers of lubricants have floundered along so long without any definite assurance that the oils they employ are the best suited for their specific needs.

One of the leading and most experienced of the important oil companies when asked to supply some pertinent information concerning the lubricating requirements of pulp and paper mills stated, after making efforts to supply the information: ". . . we regret to advise that the only lubrication engineer who is sufficiently versed in this subject . . . has been assigned to other duties and it will be impossible to furnish you with the information requested . . ." Another of the largest and best established concerns producing and specializing in lubricants advised: "Unfortunately, we will be unable to prepare such material in so short a time." In this case, a month or more was provided for the compilation of the desired information and yet this did not suffice. Other of the important oil companies replied much in the same vein, so it is very evident that the lubrication problem in pulp and paper mills is one which has yet to be resolved to specification requisitions, if it ever can be. As voiced by the supervising engineer of one of the most prominent oil companies: ". . . we take the viewpoint that there is no place for dogmatism and that even very broad generalities might be misleading, if made as direct statements."

Nevertheless, some guide is required for the paper mills to be able to seek intelligently for suitable lubricants, preferably with the assistance of as qualified a lubricating expert as can be found. Specific recommendations can, obviously, not be advanced, but possibly a general classification of available lubricants in varieties, rather than grades, may serve some purpose in directing the investigation of seekers of lubricants for specific services along the most promising lines.

Commercial Classifications of Oil Lubricants

Engine oils for the power house, for example, are divided somewhat arbitrarily into three general classes: medium body, heavy and the compounded engine oils, light engine oils rarely being of much value in power plant service. Both medium and heavy engine oils should be straight mineral oil products, the viscosity of the former being in the neighborhood of 200 (Saybolt) at 100 degress Fahrenheit and of the latter anywhere from 250 to 325 at 100 degrees, depending upon the service demands. For the medium oil, the specific gravity (Baume scale) should be about 30, not more than 25, while for the heavy oil a specific gravity of around 24 degrees Baume is about right. In flash point, fire point and cold test temperatures, the differences are quite marked, being for the medium body oils about 400, 450 and 32 degrees respectively and for the heavy bodied oils around 400-450, 450-500 and 35-40 degrees Fahrenheit.

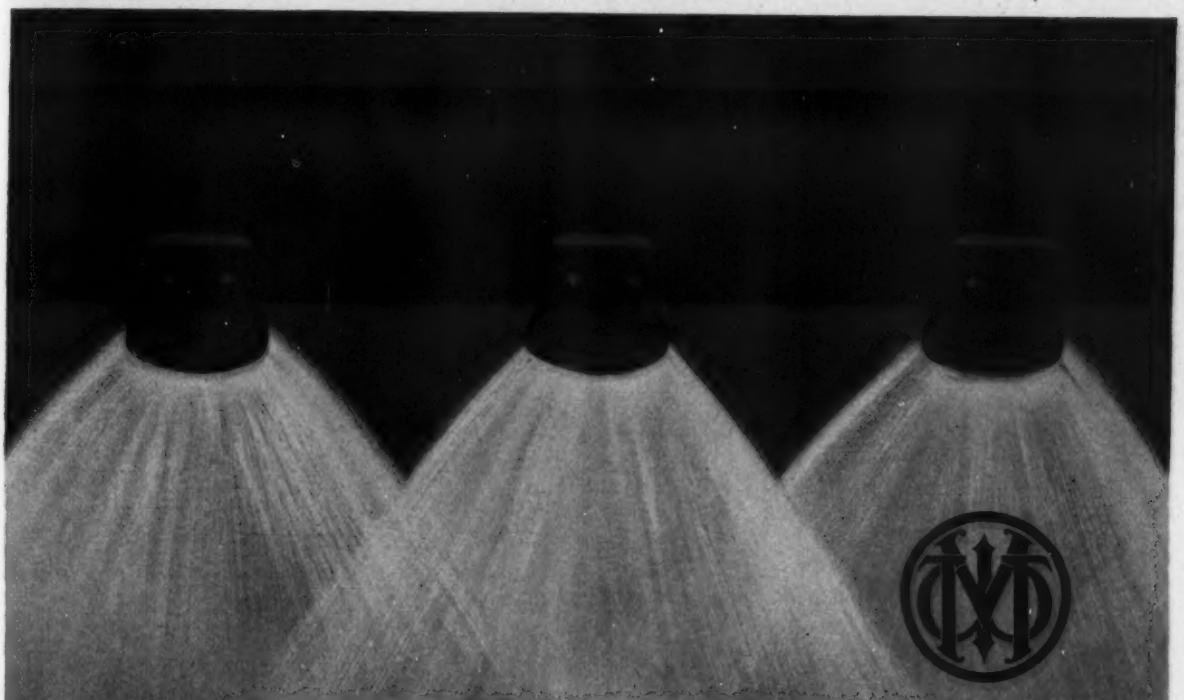
The compounded engine oils, which should be a blend of high grade mineral stock to which a relatively small proportion of lard oil is added, should be almost as heavy as straight mineral heavy engine oils, between 24 and 25 degrees Baume, with a viscosity of 190 to 240 at 100 degrees. A flash point around 400 and a fire point some 50 degrees higher, with a cold test at about 35 degrees Fahrenheit, complete suitable class specifications.

As for the customary uses for such lubricants, medium body engine oils, preferably filtered, are suitable for use where the rapid separation of the lubricant from entrained water is essential, as, for instance, in continuous oiling systems and for crank case engines. They are also suited for the lubrication of high speed and fairly high speed engines. Heavy oils are ordinarily used for massive engine bearings, are fine lubricants and stand up well under heat. The compounded engine oils are suitable for heavy bearings lubricated from drip cups and subjected to high temperatures. The compounding of the mineral oil with a small percentage of lard oil serves to increase the adhesiveness of the lubricant and add to its heat resisting capacity.

Unless the steam employed is highly superheated, so assuring a dry exhaust, cylinder oils should be compounded products of high grade mineral oils and a small proportion of animal oil. For use under high superheat, however, the most effective cylinder oil is one of a straight mineral oil stock meeting some such specifications as; specific gravity (Baume) 24.5, flash point 630 degrees, fire point 700 degrees, cold test 40 degrees, viscosity (Saybolt) 375 at 212 degrees Fahrenheit.

The specific gravity of compounded cylinder oils should not be more than 24.5 or less than about 27 degrees. The heavy oil, suitable for high pressure engines operating on low superheat, should have a viscosity of about 250 at 212 degrees, flash and fire points around 620 and 690 degrees respectively, and a cold test temperature of about 44 degrees. Other heavy compounded cylinder oils have specific gravities of from 130 to 150 at 212 degrees with fire points around the 600 degree mark. The flash point should be some 50 or 60 degrees lower and the temperature at which the oils congeal is of little consequence, varying considerably even in high grade lubricants. These heavy oils are suitable for Corliss engines operating on low superheat and a steam pressure of from 150 to 200 pounds. Cylinder oils of similar specifications, but compounded with acidless tallow oil, are especially suitable for wet steam service and variable engine load. For general use, such compounded cylinder oils, heavy, medium and light, have specific gravities of from 26 to 27 degrees Baume, flash points from 550 to 500 and fire points from 620 to 550 degrees Fahrenheit, viscosity (Saybolt) from 140 to 95 at 212 degrees and cold test varying considerably.

Crank case oils should be straight mineral oils, in order to avoid lubricant emulsification with the condensed steam collecting in the crank cases. In fact, the effectiveness of a crank case oil is dependent very largely upon its quality to filter rapidly and separate clear from water. The specific gravity of the oil should be 26.5 degrees for a heavy lubricant and about 32 degrees Baume for a light oil, while the respective viscosities should be in the neighborhood of 75 and 150 at 212 degrees. The fire point should be at from 490 to 445, with a flash some 60 to 50 degrees lower and a cold test at 30 to 25 degrees, the first given value in each case referring to the better grade of crank case oil.



Investigation pays

A large paper manufacturer (name on request) several months ago ordered a "Criss Cross" Shower Pipe on 30-day trial.

The trial gave complete proof of the superiority of these Showers.

Recently the same company sent us an order for 67 more "Criss Cross" Showers.

The qualities that won their endorsement were:

(1) *Effective cleaning.* However good a shower may look in theory, if it fails to clean the wire or felt, it is too expensive to be used.

(2) *Dependability.* This means freedom from small holes or slots that might easily clog; also quick cleanability when necessary.

(3) *Economy* in use of water. This means using enough to do the work, but not more than that.

Learn by actual test what "Criss Cross" Showers will do in your mill. Order one now on 30-day trial.

THE MOORE & WHITE COMPANY
Established 1885
15TH ST. & LEHIGH AVE. PHILADELPHIA, PA.

"CRISS CROSS" *shower pipes*

The chief requisite for an effective steam turbine oil is ability to filter rapidly and completely from water. The oil should be particularly clear, filtered through Fullers' Earth, and for heavy units should be of high viscosity, while for smaller units of medium viscosity. A serviceable turbine oil for heavy units is one of around 30.5 degrees specific gravity, flash point about 420 degrees, fire point 470 degrees, cold test low, about 20 degrees, viscosity around 200 at 100 degrees Fahrenheit. A good oil for smaller turbines would be: specific gravity (Baume) 32, flash point 395 degrees, fire point 445 degrees, cold test 31 degrees and a viscosity (Saybolt) of 150 at 100 degrees Fahrenheit. Very similar oils are excellent for the lubrication of electric generators and motors with ring oiled bearings, the heavier grade for large units and the lighter grade for motors of lower power.

When it comes to suitable lubricants for air compressors, the oils should be particularly stable, on account of the dry heat conditions. The oils should be of high grade, straight mineral stock, filtered, and selected with special care for the conditions encountered. For single stage compressors that have worked into good operating condition, an oil of substantially 26.5 degrees specific gravity, a fire point as high as 550 degrees, with a flash point some 50 degrees lower, a cold test of around 55 degrees and a viscosity of 115 at 212 degrees should be used. For multi-stage compressors, the oil should be somewhat lighter, about 30 degrees Baume, and have a fire point of 450 to 490 degrees, a flash point at 400 to 440 degrees, a congealing temperature of about 20 to 25 degrees and a viscosity of anywhere from 200 to 385 at 100 degrees Fahrenheit.

Suitable grades of machine oils are numerous, their specific gravities falling between the limits of 24 and 26 degrees Baume, though their viscosities (Saybolt) will vary from 100 to 300 at 100 degrees Fahrenheit. Their flash points should be in the neighborhood of 400 degrees, fire points from 450 to 480 degrees and cold tests between the limits of 20 and 40, possibly 43, degrees.

These are the classes of oil lubricants found most serviceable about the power plant and mills of producers of pulp and paper. The general specifications presented aim simply to provide the mills with rough gages by which quality lubricants of the various classes can be recognized and are not intended to be used as designations of specific oils for particular purposes. Suitable selection of lubricants must go much more carefully into specifications than has been attempted here.

Properties of Lubricating Greases

Greases suited to power house and mill service are manufactured products for the most part, as the natural greases, viscous products or compounds of crude petroleum, have not sufficient heat resisting capacity to withstand the temperatures often developed in service, while at low temperatures they tend to harden excessively. A grease has to be reduced to lubricating consistency before it can function and if too readily effected by slight increases in temperature loses the necessary viscosity for effective service. In fact, in order that a grease may render effective service it must be a carefully compounded product of suitable mineral oil base and possess high capacity for absorbing and carrying away heat. It must resist decomposition when exposed to the atmosphere, have a high temperature of evaporation and a low temperature of solidification, and in general possess the essential properties of a good lubricant of unusual tenacity and durability.

An effective grease is an achievement of scientific lubricant production attainable only by the exercise of careful attention to the selection and compounding of its ingredients and the elimination of all fatty acids, entrained water and compounds that may endanger the bearing surfaces or tend to promote grease deterioration. A high grade grease is, in fact, a rarer lubricant than a high grade oil and it is harder to ascertain the quality of a grease. The desirable qualities and properties of a high grade grease are admirably expounded in the following brief comments, however, submitted by a concern[2] recognized as a leading pioneer in quality grease lubrication. Quoting verbatim:

"Properly speaking, lubricating grease is a compound of mineral oil and fats which are brought together in a uniform product by agitation, boiling and the addition of alkalies. These alkalies, usually lime or soda, form a soap when combined with animal fats. This soap will take up and hold mineral oil without separation up to a mixture of approximately one to eight, making in this proportion a grease of very fluid or soft nature. Lead and aluminum soap are also sometimes used.

"In regard to the types of soap, lime soap makes a grease that is insoluble in water, while soda soap produces a lubricant which is water soluble. It cannot be definitely stated that soda greases should not be used where water is present, as in a great many instances water will work off a lime grease, causing difficulties in lubrication, while a soda grease will slightly emulsify, allowing the proper amount of lubricant to flush through the bearing clearances. Care should be taken in the type soap base lubricant used. Experimenting with both types is advisable, to judge which is most suitable. The advice of reputable manufacturers should be sought when in doubt.

"In regard to the fats used in grease making, the quality of the fat makes a decided difference in the lubricating properties of the grease produced. Beef tallow is probably the best fat available for grease making, while mutton tallow, hog fat, horse fat, wool fat and house fat follow in order of their desirability. The amount of fat used per pound of grease produced is also very important. Laboratory tests have proven that greases containing a large percentage of fat have the best lubricating properties. Tallow lubricants are composed of a large percentage of free beef tallow and some petroleum lubricating oil properly emulsified by means of a small amount of sodium soap. These lubricants are of lower melting point than the usual greases, the theory being that the grease melts when the bearing metal needs lubrication and resolidifies when its work is done. Their efficiency lies in the fact that no grease is wasted and because of the fact that tallow is an extremely good lubricant under adverse conditions of high pressures and high temperatures. The manufacturing cost of greases of this type is much higher than other lubricants, but the results achieved more than counterbalance the extra cost.

"The United States Government in their purchase of lubricating grease specify that an oil having a viscosity of at least 160 minutes at 100 degrees Fahrenheit should be used in the manufacture of grease to meet their requirements. Commonly, oil of 90 minutes at 100 degrees is used for general industrial purposes. This type of oil does not produce a thoroughly satisfactory lubricant, but the price of this type of grease is generally 1 or 2 cents below greases of better quality. Full satisfaction in lubricating grease cannot be gained, however, unless oils of good viscosity are used. With tallow grease, the oil is of less importance, as the proportion used is small in relation to mineral oil greases.

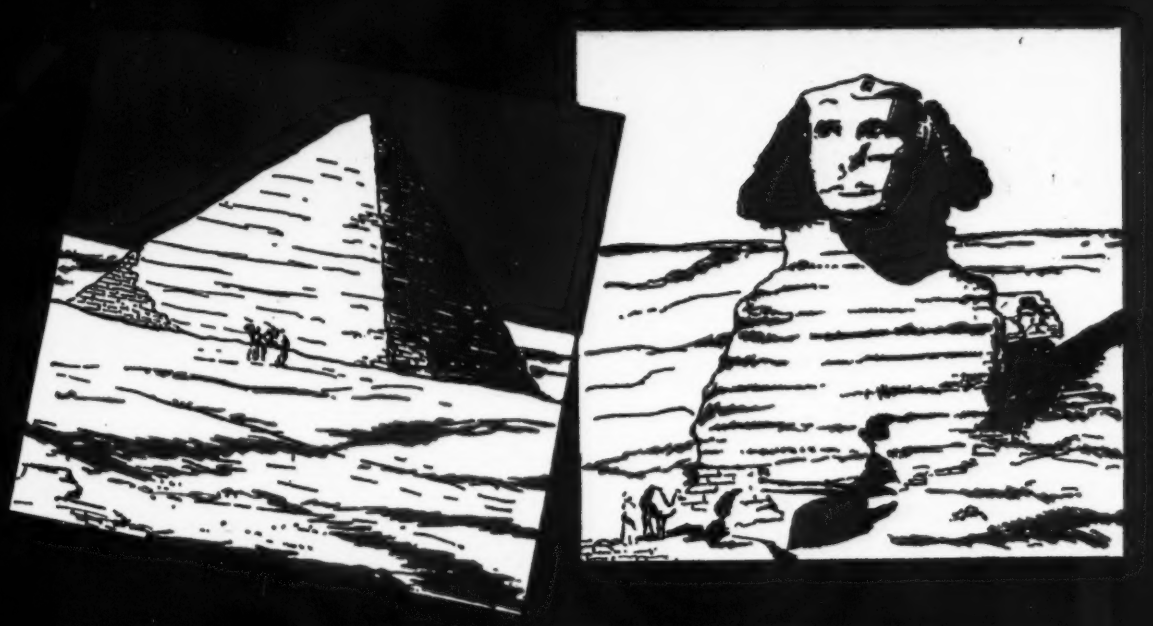
"Often other materials are incorporated in greases; talc, rosin, asphalts, waxes, chalk and asbestos; to name a few. These may or may not be considered deleterious, depending on the uses to which the lubricant is put. On the other hand, they may be added to lower the cost of the product with no regard to their value to the lubricant. In general, fillers of this nature are not to be especially desired.

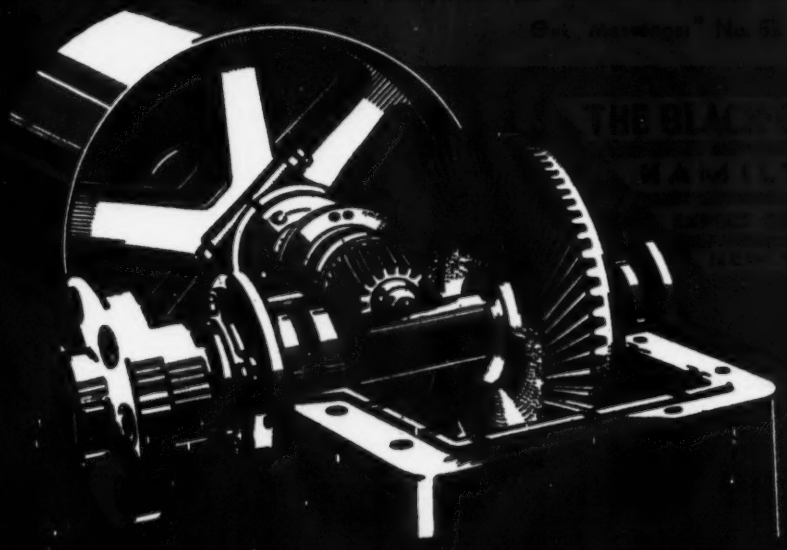
"The consistency of grease, or its degree of hardness, is in most cases brought about by increasing or decreasing the oil content. On slow moving machinery or large bearings, as well as roller bearings, soft grease is generally found to be the most satisfactory. Medium grease is advisable on fast moving bearings and hard greases wherever bearing temperatures run high."

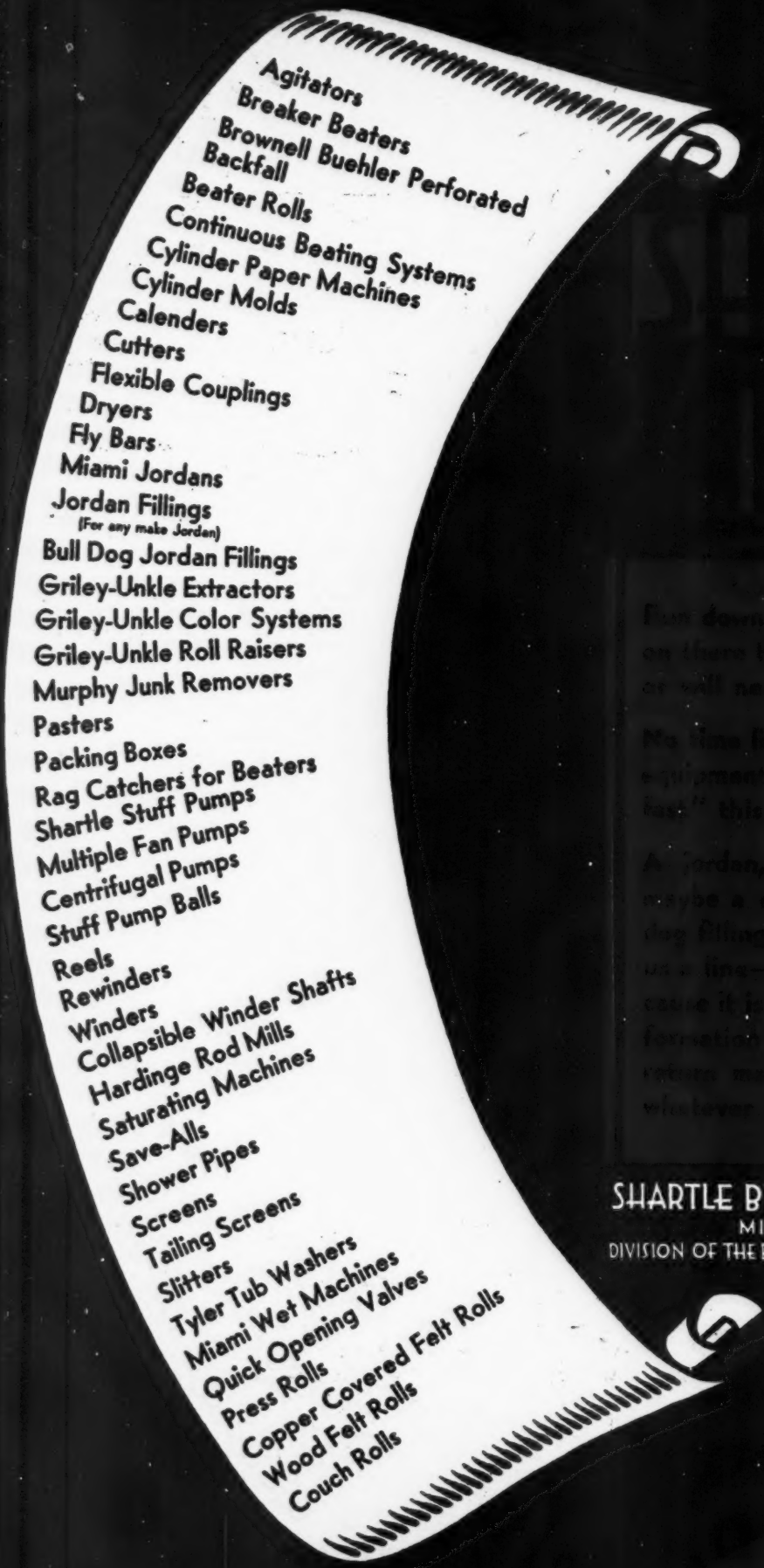
Special Lubricants and Compounds

The special lubricants produced by certain of the more progressive lubricant manufacturers represent the highest development in the compounding of scientific lubricants and their manufacture is surrounded by even greater secrecy than the production of high grade greases. These lubricants possess the desirable

[2] Adam Cook's Sons, Inc.







SHARTLE BROTHERS MACHINE CO.
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NEW YORK CITY

qualities of a high grade grease, pronounced tenacity of adhesion to bearing surfaces and unusual durability. In these respects, they resemble greases, but they are sufficiently free flowing to be fed through an ordinary oil can when at normal temperature and commence to function immediately a shaft commences to turn, in this respect resembling more a high grade oil lubricant. The tenacity with which they cling to bearing surfaces virtually avoids the dripping, spattering, climbing and slinging tendencies which are possessed to some extent by all oil lubricants. When properly compounded, they possess quite unusual heat resisting capacity and are not liable to disintegrate in any service for which they are suited.

There are also still other classes of lubricants of considerable importance to the mill, chiefly for more or less specific applications. These for the most part may be said to be of oil rather than grease characteristics, although there is also the very promising field of graphite lubrication, concerning which little definite information regarding applications in pulp and paper mill services can as yet be advanced. It may be stated, however, that the addition of graphite in suitable proportions to both oil and grease lubricants will in almost every case noticeably improve the lubricating service rendered.

Where exposed gears, wire ropes and chains call for suitable lubrication in order to avoid excessive wear, rust and power consumption, an excellent lubricant consists of a hot application with a paddle or brush of an adhesive, straight run, mineral oil of about 1,000 seconds viscosity at 212 degrees Fahrenheit. When this lubricant cools on the gear teeth, about the individual wire strands of cables, etc., it leaves a heavy non-fluid film which is almost impervious to the action of ice and remains in position under heavy pressure.

Finally, there are the more refined gear compounds which are compounded to function without awaiting the melting process distinctive of grease lubricants. Such lubricants have to cling tenaciously to the gear teeth in order to withstand the powerful squeegee pressure exerted by the full tooth load as the teeth of the gears roll into mesh and should possess unusual cohesion in order that the film of lubricant may not be broken by the sliding action of the teeth. A good gear compound is usually made by blending a mineral oil of suitable viscosity with a high grade of fibre grease, a grease in the manufacture of which the caustic used for the saponification of the fats is sodium or potassium hydroxide. The heat resisting capacity of the product is thus increased, its lubricating value elevated and its consistency reduced to that required for immediate functioning.

Application of Lubricants

Though the selection of just the exact grade of lubricant best suited for any specific service is a matter which entails perforce careful empirical determination or the guidance of a qualified expert thoroughly familiar with both lubricants and approved lubricating practices, the application of the lubricant is almost of equal importance. The value of a lubricant, a suitable selection having been made, lies in the lubrication service it renders and this is a consideration which entails applying the lubricant by correct methods and appliances.

In pulp and paper mills and their power plants some system of automatic, or at least semi-automatic, lubrication is virtually essential, hand oiling being always wasteful and often quite ineffective through failure to deliver the lubricant to the place where it is required. The methods usually employed are by oil bath, circulation, splash, ring, chain or collar oiling, and the use of drop and wick feed oilers, bottle oilers and absorbent roll oilers. These systems hardly need any explanation, particularly the more elaborate ones, but a few comments regarding semi-automatic appliances which can readily be substituted for less efficient lubricators may be of interest.

Wick feed oilers, because of their simplicity and reliability, have had very wide application in pulp and paper mills. They assure continuous, uniform delivery of oil to the bearings and possess the added advantage of feeding only clean oil, the oil being filtered as it enters the bearing. They operate by capillarity and are of many types, making them especially adaptable for use on various pieces of mill equipment and also for differing services. The type termed absorbent roll oilers is especially suitable for the application of lubricant to beater journals equipped with lower half bearings. The felt covered roll is provided with small projecting pivots held in slots in the housing, which cause the roll to rise and fall with the journal. Oil may be fed to the absorbent roll by wick feed oil cups or by hand, the former method being by far the more preferable. Multiple wick feed oilers are used quite extensively for the lubrication of calenders; wick, tray and pad oilers are utilized for the lubrication of drier bearings and wick feed boxes are often used for the journals of driers.

Bottle oilers are also quite popular for certain services, the device consisting of an inverted bottle, holding the lubricant, with its neck nearly closed by a rod, or spindle, resting on the journal. As the journal revolves, irregularities in its motion give a slight movement to the spindle of the lubricator, causing a slow feeding of the oil to the journal. Within its proper field, the bottle oiler is held to be one of the most reliable and economical means of feeding oil automatically to bearings.

The choice between these two simple and effective lubricators, wick feed and bottle oilers, is largely a matter of which is most convenient and applicable, though the service required has also to be taken into account. Bottle oilers are commonly employed for such services as the lubrication of shafting bearings and other small plain bearings which were constructed originally for hand oiling. Wick feed oilers, as has already been intimated, are generally employed for such severe services as those entailed in lubricating large heated drier bearings, beater bearings and other journals which require a more copious supply of oil.

Grease is applied, of course, by means of compression grease cups or by hand, direct to the journal. Bearings for grease lubrication often have a pocket into which the grease is pressed by means of a paddle or into which grease in brick form may be placed.

Recommendations as to the exact grades of grease or of oils to use for specific services or applications cannot be propounded, not because the suitability of the various available lubricants in their different grades for specific operating conditions are unknown, but rather because the conditions of operation and the facilities for lubrication differ in almost every mill. A lubricant which could be unqualifiedly recommended for a service in one mill may be much less satisfactory in another mill in service which is apparently identical. Neither is much to be gained by general comments on how this or that piece of equipment is frequently lubricated, for here again practices differ widely among the mills.

Good lubrication pays handsome returns to any mill, however, and the art of lubrication has advanced so much in recent years that there is now really no excuse for bearing trouble in any mill, provided, of course, it is not a mechanical collapse due to faulty design or construction of bearing. The mill that does experience bearing troubles should consult a lubricating authority and systematically check up on its lubricating costs over an extended period. If these costs run over 10 or 12 cents per ton of paper in an older type pulp and paper mill or over 7 to 9 cents per ton in a paper mill plant proper, and it certainly will in most mills, it is a pretty good indication that substantial economies can be effected by radical changes in the lubricating practices of the plant. In the more modern mills, of course, lubrication costs should be considerably below these figures.

Every mill, old or new, should look to its lubrication bill. It is one of the best barometers available for recording opportunities of cutting production costs. The danger line will vary for different mills, it is true, but each mill can and certainly should be unceasingly on the lookout for danger signals appearing on the lubrication barometer.

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CANADA AND RUSSIAN PULPWOOD

Contradictory reports regarding the possible effect of shipments of Russian pulpwood to this continent come from provincial government sources at Quebec. Thus a few days ago Premier Taschereau gave out a statement of the findings of the Provincial Department of Lands and Forests to the effect that shipments of Russian pulpwood now entering the United States via the St. Lawrence river are not likely to cause serious embarrassment to the Canadian news print industry. Now, however, it is reported from Quebec that such a disastrous effect is expected to result from the imports of Russian pulpwood that co-operation most likely will be sought from the federal and provincial Governments, to find some means of not affecting the Canadian resources. While an embargo could probably not be established as the provincial legislation now stands, experts claim that some means could easily be taken to get action to deal with the foreign pulpwood going through this province in transit for the United States. Already over thirty thousand tons have been traced going through Sorel. Should the present conditions persist, it is rumored that the Quebec and Ontario Governments may take some steps by which the large pulp and paper companies may be forced to cut each year a minimum quantity of timber in various sections of their limits so as to keep their privileges. This will likely be studied at the next session.

In the meantime there is no doubt that there will be a further decrease in the timber cutting programme of the large pulp and paper companies this year. Compared to former years only small contracts for timber cutting have been given up to now. For instance the Price Brothers and the International show very little activity leading to believe that there will not be much work in the forests this fall and coming winter.

Premier Taschereau's statement on the subject was as follows: "Though we have been following the situation closely for some time, no complaints have been received from any paper companies operating in the province, and the Russian pulpwood export is believed to be nothing more than a gesture on the part of the Soviet authorities.

"Our forestry authorities and those outside of the Provincial Government who have investigated the question of imports of Russian pulpwood to United States mills are of the opinion that the sale of this wood at the market price is most uneconomic and that the volume of imports will be merely enough for trading talk.

"Figures compiled by pulpwood experts who visited the S. S. "Fishpool" at Sorel some three weeks ago and examined her cargo of Soviet wood awaiting shipment by canal to New York and Pennsylvania show that the imported wood will probably be sold at a figure much lower than its actual cost. Even granting that the wood operations which are being carried out on the shores of White Sea in Russia, are being executed by conscripted labor, the cost would still be far above the sale price of Canadian pulpwood cut off private lands in the province of Quebec and sold to American paper mills. While the present Russian imports plan may be purely another example of Soviet propaganda, the office of the union of Soviet Russian republics in New York city has been seeking the advice of both American and Canadian forestry and woods operating experts for the further development of Russian timber resources, and are considering the introduction of Canadian methods in northwestern Russia, and also in Siberia. Plans have been laid for preliminary exploration by aeroplane of immense areas with a view to large-scale operations. Since there are neither sufficient paper mills, nor adequate hydro-electric plants to handle the vast quantity of wood which might be cut, it is not regarded that Russia might become a serious competitor of the Scandinavian countries for the European market."

U. S. REFORESTATION IN 1929

Forest planting by all the principal agencies engaged in the work of reforestation in the United States last year restored to tree growth a total of 111,175 acres, records just completed by the Forest Service, U. S. Department of Agriculture, show.

The total acreage set out in young forest trees in 1929 included 107,557 acres in the continental United States, 2,084 acres in Hawaii, and 1,534 acres in Porto Rico. Reforestation activities included the planting of 31,430 acres by 21 States and two Territories; 5,920 acres by municipalities; 25,088 acres by industrial organizations; 539 acres by schools and colleges; and 1,516 acres by other organizations. Plantings by farmers for the extension or improvement of farm woodlots and windbreaks amounted to 24,825 acres; and plantings by other individuals, 3,650 acres. The U. S. Forest Service planted 18,207 acres of land on national forests in 1929.

Michigan, with 27,820 acres restored to tree growth, led the States last year in total acreage planted to forests. New York ranked second with 21,135; and Louisiana third with 10,583 acres. Other States which ranked high in forest-planting activities were Pennsylvania, with 6,318 acres; Washington, 4,400 acres; Massachusetts, 3,938 acres; Ohio, 3,428 acres; and California, 3,023 acres.

Industrial forest plantings in 1929 included 10,060 acres planted by pulp and paper companies; 8,732 acres by lumber

companies; 3,189 acres by water and power companies; 1,561 acres by mining companies; 100 acres by railroad companies; and 1,446 acres by other industrial organizations.

To the end of the calendar year 1929, the cumulative total of all forest planting in the United States of which the Forest Service has record was 1,653,308 acres. This included 274,385 acres of national forest land planted by the Federal Government; 200,553 acres by States; 46,282 acres by municipalities; 193,262 acres by industrial organizations; 16,335 acres by other organizations; 5,215 by schools and colleges; and 917,276 acres by farmers and other individuals. In cumulative acreage planted, Iowa led with 242,260 acres; Nebraska was second with 219,088 acres; Kansas third with 201,190 acres; and New York fourth with 183,369 acres.

Reduced Rates from Watertown Authorized

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., August 18, 1930.—As a result of the recent decision of the Interstate Commerce Commission it was learned this week that reductions ranging from four to ten cents in carload rates on wrapping paper and paper bags shipped from Watertown to the Middle West had been authorized. The rate revision will place shippers of these products in Northern New York on a more equitable basis with competitors in Albany and the New England territory and officials of the St. Regis Paper Company, Dexter Sulphite, Pulp and Paper Company and Taggart Bag Corporation are entirely satisfied with the decision. Official notification of the decision was received this week from Washington by the traffic manager of the St. Regis Company.

Hearings were held on the complaint filed by Taggart Brothers relative to the rates on paper bags in this city in the latter part of 1927 when the protest of the Dexter Sulphite Pulp and Paper Company was also made regarding rates on wrapping paper to destinations in the central freight association territory. All cases were tied up with the complaint filed by St. Regis in connection with the complaint on news print rates to the Middle West territory. Under this latest decision of the Interstate Commerce Commission, it was learned that the Watertown rate will be slightly under the Albany rate on carload lots to that section. At the recent investigation of the complaints the principal witnesses were J. A. Quinlan and C. U. Smith, representing the St. Regis interests and Taggart Brothers, and Harry Hanson, of the Dexter Sulphite Pulp and Paper Company.

The decision provides that the carload and less carload rates are to be the sixth and third classes established by the Interstate Commerce Commission in its Eastern Class Rate investigation.

Pass Resolutions Against Russian Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 16, 1930.—Dr. Wilson Compton, secretary-manager of the National Lumbermen's Association, speaking at the first session of the semi-annual meeting of trustees of the association held in Portland, Oregon, August 8-9, censured the treasury department severely in its recent action permitting the importation of Russian lumber and pulpwood, characterizing the move as "political timidity." Dr. Compton further said that the department's action was due entirely to the fact that the Russian government is buying in this country in dollars three times as much as it is selling.

This topic was discussed extensively by Dr. Compton and also by the entire association during the two days session with the result that delegates adopted resolutions which specified that a special committee be appointed to call on President Hoover and other officials at an early date to request rigid enforcement of the tariff act provisions relating to convict-made goods.

Box Board Production for June

WASHINGTON, D. C., August 18, 1930.—June production of box board, based on reports to the Department of Commerce by 97 firms operating 130 plants, was 69.4 per cent of capacity, as compared with 72.4 per cent in May, 72.7 per cent in June, 1929, and 72.7 percent in June 1928. The following table presents a complete revision of data previously presented due to the inclusion of reports for additional concerns. The capacity data shown below vary according to the normal number of working days in each month:

Year and Month	Operation			Production			New Orders	Unfilled Orders (end of month)
	Inch hours		Per cent of Capacity	Short Tons		Per cent of Capacity	Short Tons	
	Capacity	Operated		Capacity	Output			
1930								
Jan.	11,691,264	8,772,273	75.0	329,628	*236,344	*71.7	244,536	69,940
Feb.	10,888,704	8,971,760	82.4	306,432	*221,014	*72.1	213,251	62,134
March	11,796,096	8,643,344	73.3	331,968	*229,979	*69.3	226,770	58,591
April	11,796,096	8,580,845	72.7	331,968	245,167	73.9	249,848	66,868
May	11,796,096	*8,377,741	71.5	331,968	*240,186	*72.4	*234,405	63,237
June	11,342,400	7,841,532	69.1	319,200	221,525	69.4	221,526	58,866
Total (6mos.)	69,310,656	51,187,495	73.9	1,951,164	1,394,215	71.5	1,390,336	....
CORRESPONDING MONTH OF PREVIOUS YEARS								
June, 1928	12,140,232	8,630,030	71.1	324,714	326,099	72.7	236,077	80,834
June, 1929	11,719,850	9,012,771	76.9	320,600	233,164	72.7	223,723	73,330
TOTALS FOR PREVIOUS 6 MONTH PERIODS								
1928	71,880,828	51,569,383	71.7	1,922,806	1,367,028	71.1	1,361,311	....
1929	71,682,282	56,001,596	78.1	1,959,722	1,510,398	77.1	1,481.604	....

* Revised.

Year and Month	Shipments of boxboard	Stocks of boxboard, end of month	Consumption of waste paper		Per cent of Capacity	Stocks of waste paper end of month	
			Capacity	Consumed		At plants	In transit and unshipped purchases
	Short Tons		Short Tons			Short Tons	
1930							
January	*232,284	66,498	318,786	223,288	70.0	180,055	54,142
February	*220,987	66,438	296,429	216,717	73.1	179,497	54,577
March	*229,325	67,492	321,126	229,909	71.6	192,957	54,629
April	241,458	72,071	321,126	230,993	71.9	181,125	51,950
May	*238,079	*74,908	321,126	*232,581	*72.4	185,972	34,919
June	225,336	70,904	308,775	210,793	68.3	184,451	38,241
Total (6 mos.)	1,387,469	.....	1,887,368	1,344,281	71.2	.....	.....
CORRESPONDING MONTH OF PREVIOUS YEARS							
June, 1928	229,901	55,818	311,922	211,107	67.7	134,577	43,490
June, 1929	236,147	61,747	306,775	232,060	76.9	156,352	55,543
TOTALS FOR PREVIOUS 6 MONTH PERIODS							
1928	1,355,765	.....	1,846,838	1,260,849	68.3	.....	.....
1929	1,500,587	.....	1,875,413	1,430,173	76.3	.....	.....

* Revised.

Low Water Handicaps Northern New York Mills

MALONE, N. Y., August 18, 1930.—Paper mills in this section are being severely handicapped by low water in the Salmon River and unless a remedy is found it is believed that curtailments will be necessary. Officials of the Malone Paper Company, reported that their ground wood plant is already shut down and if the dry weather continues it will be compelled to suspend all activities. The company, however, has plans under way for obtaining temporary relief by using the water storage at Mountain View near this place and officials are hopeful that this will solve the present difficulty.

It is learned that the waters in the Salmon River have been gradually diminishing for several weeks and a number of streams emptying into it have been reduced to mere threads. Similar conditions prevailed last year when the Malone Paper Company was forced to shut down in many departments during the period of drought.

B. Tamura Visits Bagley & Sewall Plant

WATERTOWN, N. Y., August 18, 1930.—B. Tamura, managing director of the Hokuetsu Paper Mills, Japan, completed an inspection of the Bagley & Sewall plant during the past week and was much impressed with the company's methods. He is making a tour of the world during which he plans to visit the large paper mills in the various countries. The Bagley & Sewall Company has turned out a number of paper machines for the Hokuetsu concern.

Those who would build well... must build on STRONG FOUNDATIONS!

By CARL R. MILLER

No. 4 in a series of advertisements describing the position of The Mathieson Alkali Works in the chemical industry.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Sulphite Digester Circulating System *

By F. L. Mitchell[1]

EDITOR'S NOTE: This article was considered to be the outstanding contribution to the program of the annual meeting of the Canadian Technical Section. At the recent summer meeting of the Section the author was presented with the Weldon medal.

For several years sulphite operators and technicians have had many discussions at which many theories have been expounded concerning what actually happens in a physical or mechanical sense when a digester of chips is being cooked by the sulphite process.

It has, of course, been impossible to observe what takes place in commercial digesters and, until methods of closely observing temperature were applied, no definite knowledge was available of the movement within the digester or of the temperature conditions set up during the cook.

At times, one even heard the expression of opinion that the whole mass of chips moved and that if this movement was not obtained or if the cook did not have the "feel" of this movement, then a digester was "bored" and a poor cook was a certainty. This to a certain limited extent is true in a practical sense, but it is inconceivable in the light of present knowledge that the chips move.

A few moments thought on the forces necessary to move such a solid mass of chips enclosed in a confined space would confirm one of this. The liquor is moved by convection currents and by the impulse of the steam discharging into the bottom of the digester. This observation is supported when inspection has been made of a digester charge which has been partially or completely cooked and from which the liquor has been withdrawn. The chips are seen to have retained their original form. Had there been much movement of the mass, this would have caused a preliminary pulping which in present practice only occurs during the blowing or dumping of the digester contents or by mechanical means after.

It being reasonably well established, therefore, that the chips do not move during the cook, it remains to discover how the heat applied is distributed and to further determine the temperatures that exist in various parts of a digester during all the different phases of a normal cook. The method available to us at present is to make observations by means of recording thermometers advantageously placed.

With this objective in view, investigation was carried out at the Iroquois Falls Mill of the Abitibi Power & Paper Co., when, by special arrangement with a reliable firm of recording thermemeter manufacturers, a thermometer was installed to record simultaneously the temperature at the top of the cylindrical portion of the digester where the dome begins, then and still considered by many to be the normal place for observing and recording digester temperatures, and the temperature just above the bottom cone strap.

Surprising Results

The observations from these thermometers were surprising and it was not long before it was realized that the temperature as recorded by the bottom thermometer, when considered in conjunction with the behavior of the top thermometer, revealed much better than ever before an additional story, viz., the conditions in the digester with respect to heat distribution or, in other

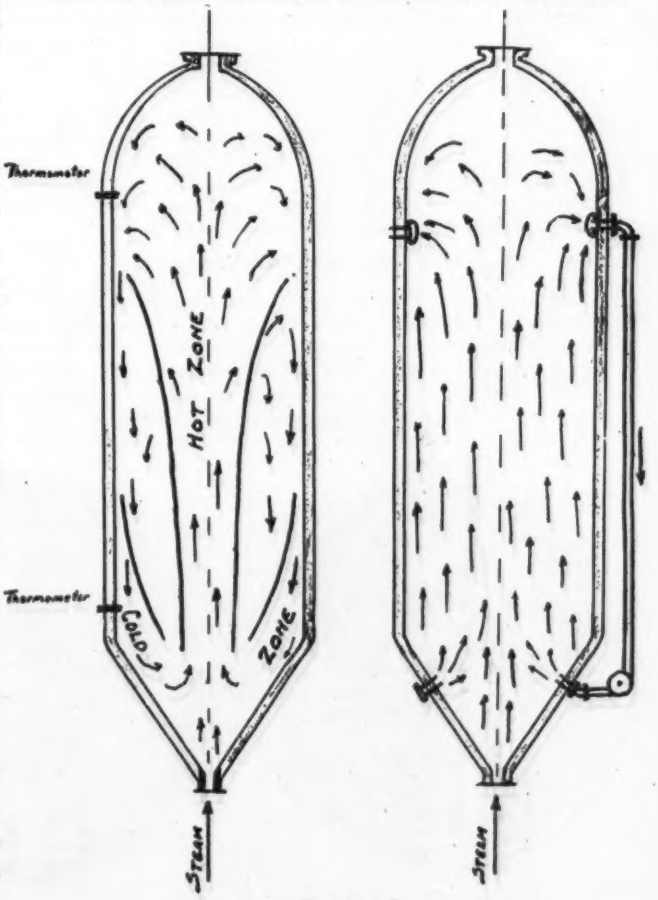


DIAGRAM I
Illustrating Circulation Currents.

* Presented before the Technical Section of the Canadian Pulp and Paper Assn., Montreal, P. Q., Jan., 1930.
[1] Asst. Mgr. operations. Abitibi Power and Paper Co., Toronto, Ont.
NOTE: The cuts were furnished by "Abitibi," the magazine of the Abitibi Power and Paper Co

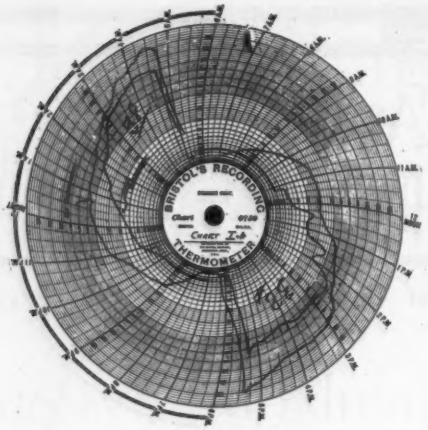


CHART I A

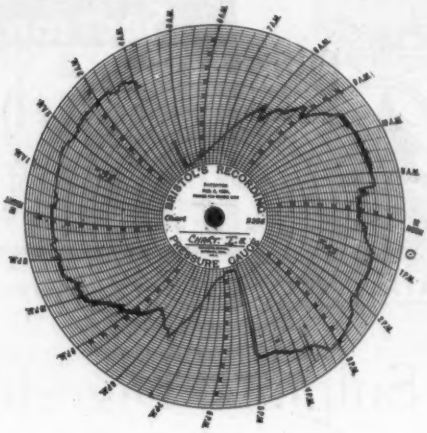


CHART I B

words, became a guide to circulation. (Chart I. A). In some few instances it was seen that whilst the top thermometer apparently recorded a normal cook and to all intents and purposes it would be considered as such had the bottom pen not been there, the bottom thermometer showed rapid and irregular rises in temperature at the early period (second or third hour), usually followed by considerable variation throughout the cook. (See Chart II.). The pulp from these cooks was invariably poor with a considerable quantity of uncooked wood.

These were cooks that perhaps had been "bored" according to general parlance and were certainly cooks where circulation was bad. They usually did not blow clean and the pulp remaining in the digester was invariably uncooked. It was then found that, when a cook showed this tendency to rapid rise of bottom temperature at the beginning, it could be checked by "shutting in" and after a reasonable period starting steaming all over again, resulting in a normal temperature trend and good pulp. It was, therefore, not long before all the Iroquois Falls digesters were equipped with two pen thermometers, and since that time this has become more or less general practice in the industry.

Temperature and Delignification

The next phase of development came when the published researches of Miller and Swanson and the observations of the Abitibi research department, together with that of other investigators, revealed more completely the nature of the chemical reaction occurring but more particularly the effect of temperature on the rate of delignification, pulp quality and yields (see Charts).

R. W. Hovey, then Director of Research for the Abitibi Power & Paper Company, having studied this information and having confirmed it by other experiments, grasped the significance of the fact that the top and centre zones of the digester reached pulping temperature several hours before the bottom and outside zones and that conditions in the centre zone were probably by far the worse due to the fact that circulation or distribution of heat was so slow. (See diagram I, illustrating direction of circulating currents.)

Applying this reasoning to practical conditions, therefore, it is seen that the result from a quick cook carried out under these conditions could only be a pulp with considerable lack of uniformity of product in that whenever quick cooking and high temperatures (viz. above 140 deg. C.) are employed corresponding losses in yield and strength are to be expected, particularly in the portions exposed to the higher temperatures, whereas, the pulp from the cooler zones would be of quite different characteristics. Coupled with this observation was the practical difficulty of not being always able to absolutely control the temperatures from the beginning of the cook when such minor things as the way chips pile up in a digester during filling, etc., can affect such an important factor of cooking as circulation.

Effect of High Temperature

It is also well known from the above mentioned researches that delignification starts at between 100 and 110 deg. C. and that the period prior to reaching this temperature need only be long enough to ensure thorough penetration of acid into the chips. In practice it is found that, when an effort is made to reduce the time taken to arrive at 110 deg. C. by steaming rapidly, difficulties in circula-

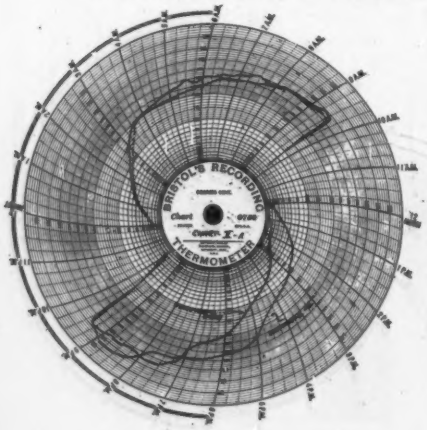


CHART II A

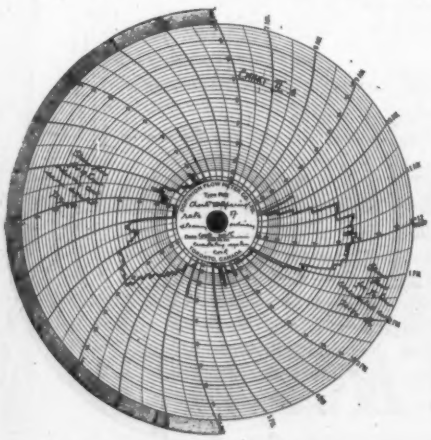


CHART II B

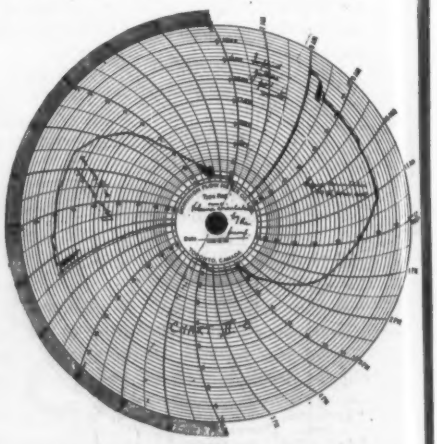


CHART II C

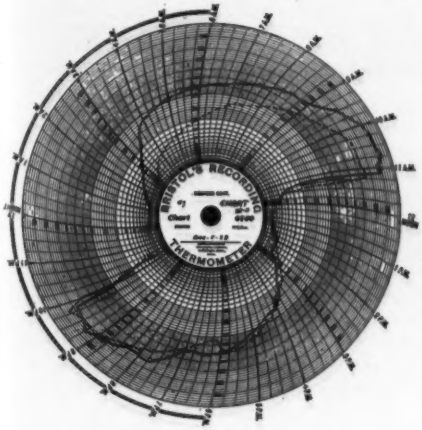


CHART III A

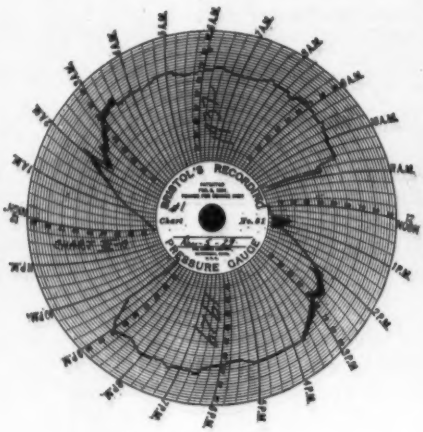


CHART III B

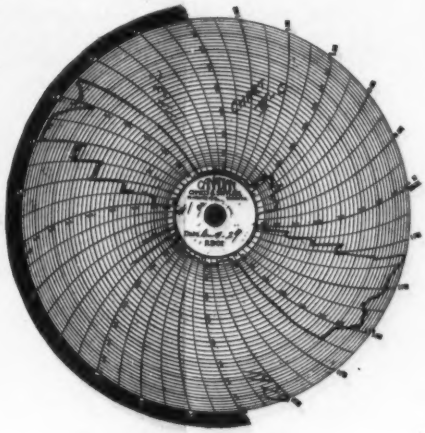


CHART III C

tion develop and local overheating resulting in brown chips occurs. Due to the slow and uneven distribution of heat, either troubles similar to the case mentioned and illustrated above occur (hence the common necessity for slow and easy steaming during the first hour), or the temperatures at the top zones of the digester rise too rapidly, get out of control, and very quick cooking is set up in these zones whilst the cooler portions of the digester are hardly cooked at all. The result is a cook with a mixture of very hard harsh pulp together with overcooked low yielding and broken down fiber. (See photograph.) The proportional components of the mixture depend on the temperatures existing and the times the zones are at those temperatures. The more rapid the cooking the more pronounced is this condition, and the slower the cooking the less pronounced does it become. Hence the success of slow cooking and the necessity for striking a happy medium between extremes. Further, the greater the height of the digester or the column of chips or the greater the resistance to convection currents by which the heat must pass upward to the top and downward along the sides to the bottom, the more pronounced is the difficulty of distribution of heat without mechanical means.

Distribution of Heat

All these considerations led to the conclusion that improved results could be obtained if the distribution of heat could be speeded up without materially changing its direction of flow, thereby approaching a condition whereby uniformity of temperatures could be more rapidly and completely secured with the least disturbance or natural flow, particularly during the initial stages of a cook. Experiments were therefore conducted at Iroquois Falls with this objective in view. The first of these consisted of attempts to move the liquor from the hot zone in the dome to the cold zone in the cone through a single small 3-inch line to see what could be done. Various types of injectors were tried because it was thought that the addition of steam could be simultaneously achieved, but these all failed to move the liquor after temperatures of 80 deg. C. were reached, due to the injector becoming gas bound. A pump was therefore substituted and successfully overcame the difficulty found with the injectors in that liquors could be circulated for a considerable time.

The success of these preliminary experiments led to a recommendation for a trial installation on one digester, which received complete support of the executives of the Abitibi Power & Paper Company. This installation was designed with sufficient flexibility to secure information on volumes to be handled, together with engineering data required for future modification of design. The material used was ordinary acid-resisting bronze and copper tubing, the deterioration of which was exceedingly rapid although six months of continuous operation and experimenting were available before any replacements were necessary. This was sufficient time to get data in substantiation of continuing the investigation further with revised design of equipment. A summary of the results obtained from these original experimental runs is attached with illustrating charts in the discussion on operation to follow later.

Transfer to Smooth Rock

Upon completion of these experiments, further investigation at the Iroquois Falls Mill was postponed and the work trans-

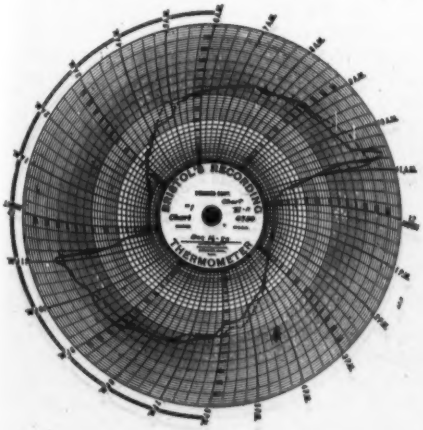


CHART VI A

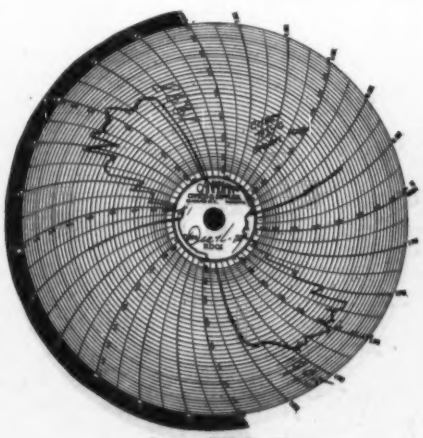


CHART VI C

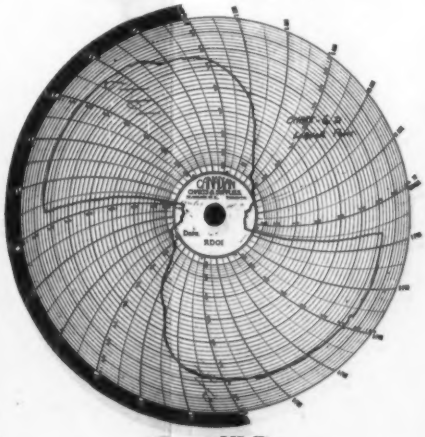


CHART VI D

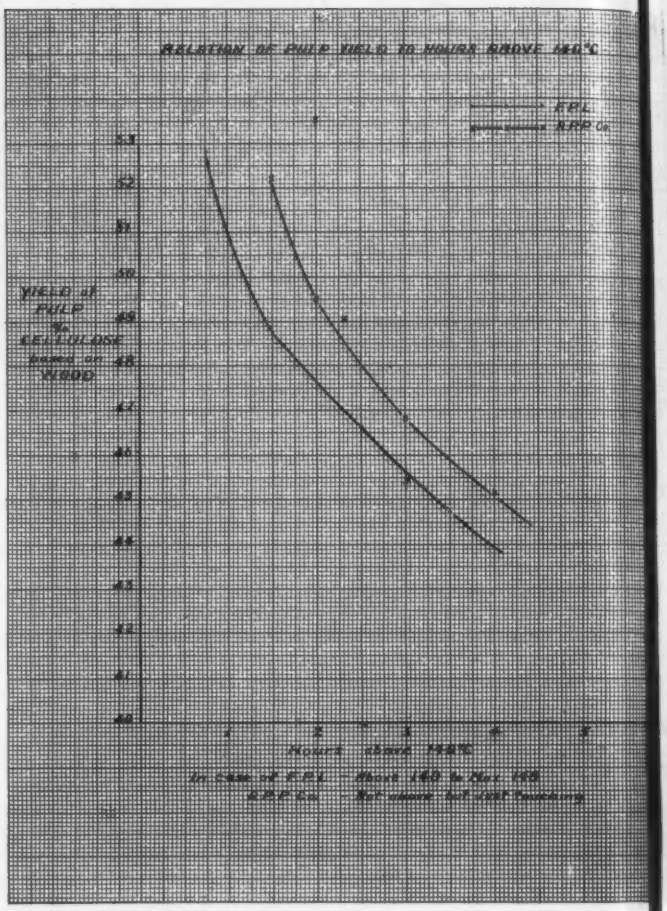
ferred to the Abitibi Fibre Company now the Smooth Rock Fibre Division of the Abitibi Company where, with digesters of 30-ton capacity being 19 feet x 65 feet, it was realized that a successful circulation system should be a very great benefit. Simultaneously with this move, Mr. Hovey, who, in the meantime had resigned from the Abitibi Company, started a similar investigation at the Nashwaak Pulp & Paper Company.

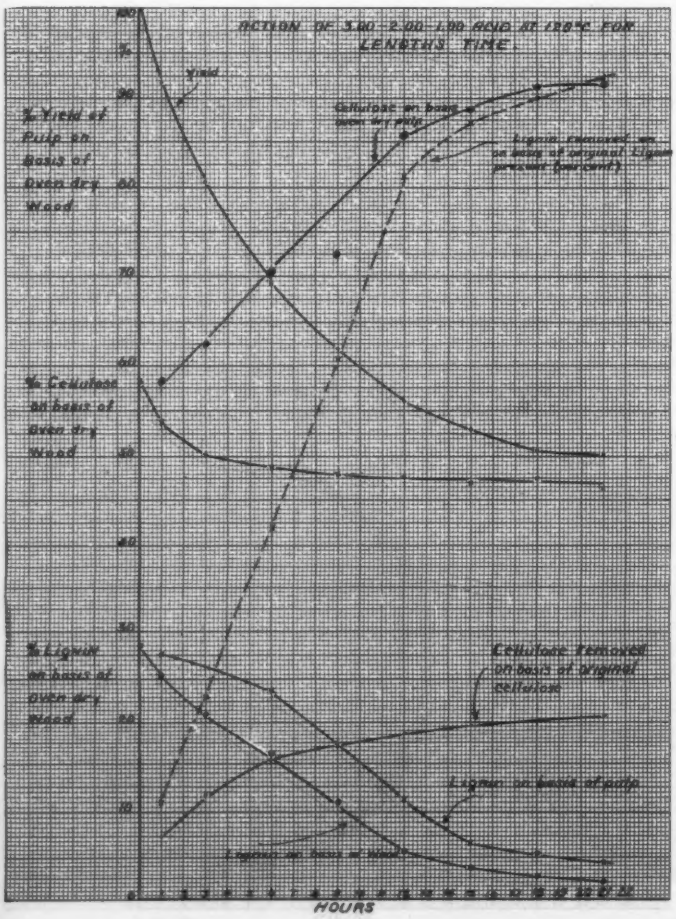
A system incorporating all the experience in design gained from the original Iroquois Falls installation was designed by H. J. Buncke, chief engineer, fabricated in bronze, and put in operation at Smooth Rock Falls on one digester and later extended to two digesters, with the ultimate objective of extending it to the third digester.

As soon as operation started in this mill, problems incidental to the use of the system on such large units presented themselves, and their successful solution involved several weeks of hard work, disagreeable experiences, study, and perseverence on the part of the operating staff.

One great difficulty amongst other minor ones was that the volume of liquor moved (four times digester liquor contents per hour) was far too great, with the result that chip pressures against strainers within the digester broke them off. Several side relief strainers were broken as were also the suction strainers of the system. Reduction of volume handled to twice the liquor contents per hour overcame this difficulty and at the same time gave very much improved temperature control.

Successful operation continued on this basis for a time when it had to be discontinued on account of deterioration of bronze with a resulting copper sulphide scale getting into the pulp in minute particles to the extent of interfering with the cleanliness quality.




ACTION OF 3.00-2.00-1.00 ACID AT 180°C FOR LENGTHS TIME
% Yield of Pulp on Basis of Oven dry Wood
% Cellulose on basis of oven dry Wood
% Lignin on basis of oven dry Wood
Yield
Cellulose removed on basis of original cellulose
HOURS

All the operating difficulties having been overcome and the value of mechanical circulation to the mill having been demonstrated, the problem became intensely one of finding a suitable material or preventing the scale formation. It was realized that chromium-nickel-iron alloys held a potential solution, but these were very expensive, and the results of extensive experiments with products from several manufacturers in Canada and the United States were by no means favorable when considering such large units.

Attention was therefore turned to treating or lining the bronze with more acid-resistant material and, in co-operation with the National Lead Company who have developed the new "Tubond" process for bonding lead to other metals it was decided to completely line the bronze of one digester with chemical lead by the aforementioned process.

This digester has now been in regular operation for three months and there has been no evidence of dirt in the pulp. But it is too soon yet to make a definite statement as to the complete success of this step. Undoubtedly the lining has signs of being serviceable for some considerable time and its use must be considered in comparison with the use of chrome-nickel steels for future installations.

Returning now to considerations of operation and examining the results from the first installation at Iroquois Falls, which must be considered as purely experimental:

A chart is attached showing temperature conditions for a 9½ hour newsgrade cook in a 15 feet x 54 feet digester without mechanical circulation and, on the same chart for comparisons, is drawn the average temperature condition for a cook of the same duration, resulting in better quality using mechanical cir-

culation. (Chart II. A.) These curves are drawn from the averages of several cooks.

Equalized Temperatures

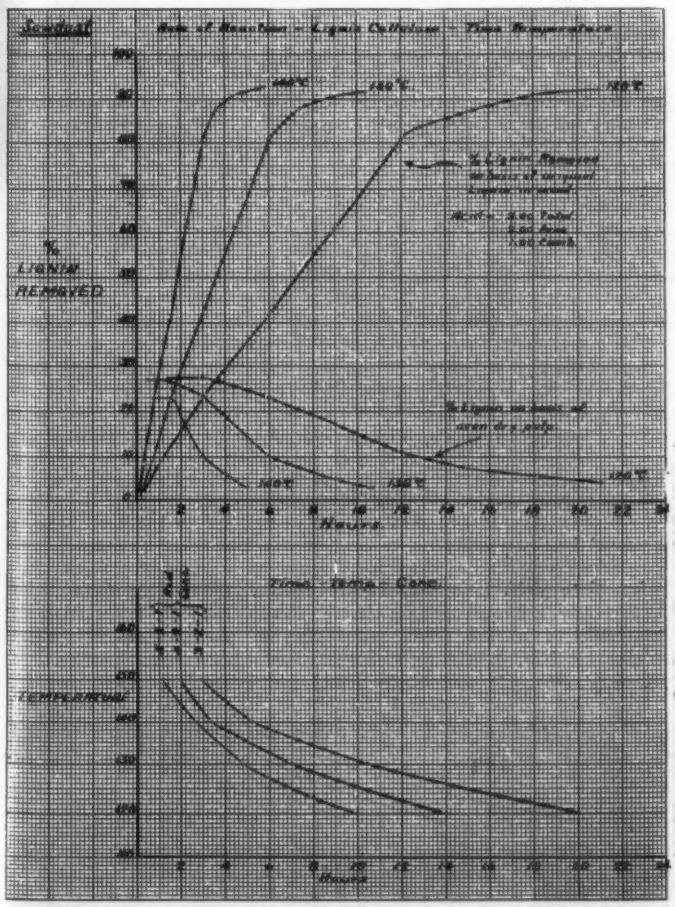
The temperatures at the top and bottom of a normally cooked digester are very wide apart for at least the first six to seven hours of the cook and, when pulping temperature is reached in 4 to 4½ hours at the top of the digester, the bottom outside zones are only warm and do not get to that temperature until at least 5 or more hours. The bottom temperature rises much more rapidly than the top after the early stages are completed and only equalized with the top temperatures during the last 2 or 3 hours. Sometimes they never completely equalize.

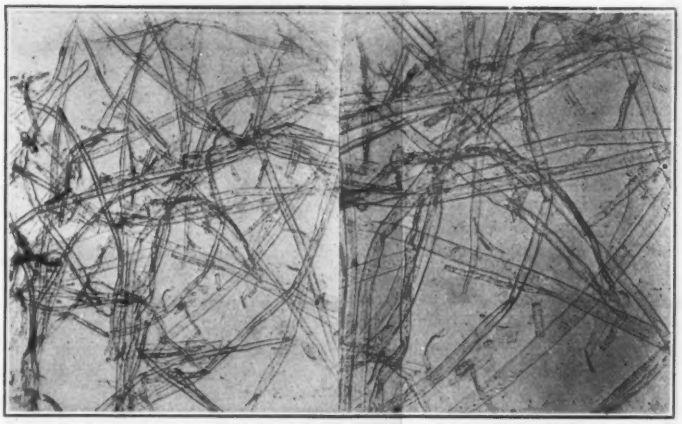
In the circulated digester, temperatures at both top and bottom equalize immediately because the heat that rises to the top is withdrawn and transferred to the cold areas to return upward through them to the top again. In this way the whole mass is uniformly heated during the important steaming period when most of the steam is admitted. This equalizing of temperature can be held almost throughout the cook, particularly with small digesters, whilst with larger units it becomes difficult to completely control temperatures throughout to the end due to reduction in volumes of liquor pumped when chips begin to soften. (Chart II. C.) Most of the steam required by that time has, however, been added and the importance of distribution is not so great. Mechanical circulation is most effective during the first 6 to 8 hours of a cook.

Temperature and Time

Since mechanical circulation permits control of temperature, advantage can be taken of the knowledge developed by our various investigators of the effect of temperature and time on the rate of reaction and yield. A cook can be scheduled to obtain the best results with minimum lost time. A similar schedule can be outlined for an ordinary non-circulated cook, but to follow it, cooking time must be lengthened to compensate for temperature differences. The usual practice for circulated digester is to get to between 100 and 110 deg. C. (pulping temperature) as rapidly as possible, the governing feature being the necessity for penetration of chips with acid before these temperatures are reached. Steaming is controlled by using a flowmeter, the steam being admitted in rapidly increasing increments whilst the pressure is allowed to rise rapidly. (See Steaming Charts.) Temperature increase is the governing factor of steam admission and to control pressure liquor relief is started at 50 pounds. The pressure is increased gradually from that point until 75 lbs. is reached. Two and a half to three and a half hours is the usual time to attain 110 deg. C, although studies of penetration tend to show that this period might be further reduced. After 110 deg. C has been attained, the temperature is advanced by uniform hourly increments which can be determined by the time allowed for cooking and quality requirements. For a slow digestion an increment of 3 to 4 degrees per hour to a maximum of 140 deg. C will give a long-fibred, well-digested pulp of high yield in 9½ to 10½ hours total cooking time. Screenings will be from 1½ to 2 per cent. For shorter cooks the hourly increment and maximum can be increased. Seven to 7½ hour cooks have been made with an increment of 5 to 6 deg. C hourly and maximum temperatures of 140 to 145 deg. C, tailings approximating 3 to 4 per cent. The fiber from these short cooks may not necessarily be of the quality required for present day quality newsprint but, by selecting some point between a minimum of 7 hours and a maximum of 10½, depending upon wood conditions, a favorable set of cooking conditions can be selected according to the operation, quality and economies required. If cooking time of 10 hours or more is available, then desirable pulp strength characteristics with attendant yield improvements and steam reduction can be obtained by keeping low maximum cooking temperatures.

Some cooks were made using a Fresk Machine for chip packing, a development which comes to us from Europe. While no figures are available to definitely state the advantages of using a chip packing device, these are available from Europe and enough cooks were made to know that a circulation system makes a chip packing device applicable to the quick cook operation, which is general practice in America.





Typical of unbleached pulp from digesters cooked with extremes of temperature at top and bottom as indicated on two pen record. LOW MAGNIFICATION—A mixture of collapsed fibers and rigid good fibers with length. Considerable quantity of fine material from broken fibers. HIGH MAGNIFICATION—Considerable proportion of broken fiber and jelly-like mass. Fiber walls show signs of abrasion or being partially attached. Fiber ends are broken and frayed whilst bordered tips are not distinct.

Summary of Results

Summarizing the results from these experimental runs, it is seen that for any given wood condition a circulated digester in 1½ hours shorter cooking time will produce a pulp of the same or better quality, as an ordinarily cooked digester will. Conversely, if capacity or cooking time is not a consideration, then a circulated digester has the advantage of operating with reduced temperatures and slower digestion, thereby producing superior pulp from the point of view of strength, yield, tailings, steam and bleach consumption.

The cooking charts from a 30-ton digester provide interesting comparison with those of 15-ton digester. In the case of 30-ton units, the separation of temperatures at the initial stages is much greater and the result is that all the difficulties of cooking herein before described are increased. (See Charts.) Strong pulp can be cooked in these digesters without machanical circulation, but it has very high bleach consumption to reduce which cooking times become too long for economy. With circulation, stronger and more uniform pulp can be obtained with materially reduced bleach consumption and with reasonable and even reduced cooking time.

A running comparison under actual operating conditions between circulated 30-ton digesters and normally cooked digesters of the same size leads to the following conclusions based on average results:

(1) The strength of the pulp from circulated digesters is improved by 10 per cent. Uniformity of fiber is improved.

(2) Shorter cooking time to the extent of 1½ hours is available without quality depreciation at the same maximum temperatures.

(3) A small steam saving is available if maximum temperatures remain the same. Lower maximum temperatures give correspondingly lower steam for the same cooking time.

(4) The total bleach consumption is reduced by 20 to 25 per cent still maintaining the improved strength.

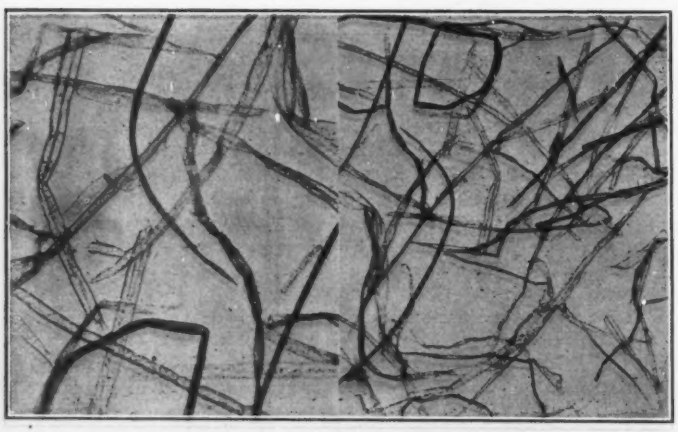
(5) No quantitative measures are at present available of the difference in yields or screenings, although the pulp from a circulated digester is known to knot and screen more easily.

(6) Due to being able to blow with lower SO_3 test and still maintain strength of pulp, a reduction in sulphur consumption by reason of improved recovery is possible.

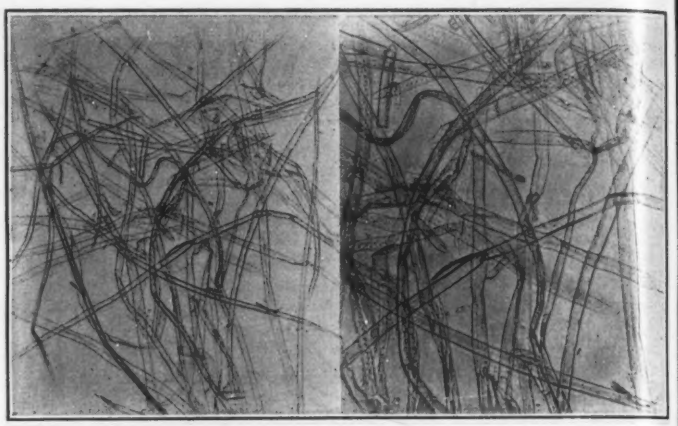
(7) Cooking can be conducted with lower initial acid strength and lower combined therefore reduction in acid cost is available.

Potential Savings

In conclusion, one might point to the potential savings which can be obtained, in news mills particularly, by combining a circulating system with one of the well-known chip packing devices and the Chemi-Pulp process for the recovery and utilization of heat in the relief liquors. Although this has not yet been accomplished in any one mill, it is a rapidly approaching development and one full of many interesting possibilities for economy, seeing that such a process will utilize to maximum advantage all the individual advantages that each one of these three developments possesses. It will not be long, I hope, before the Abitibi Company will be able to definitely state what these possibilities are.



Pulp from 7¼ hour circulated cook. Note the stiffness and rigidity of the fiber, also the thickness of the fiber walls and absence of broken fiber. A hard, strong pulp.



Unbleached sulphite fiber from a circulated cook at 138 degrees C. maximum temperature in 10 hours cooking—Screenings 1.6 per cent—Bleachability 20 per cent. High strength with good hydration characteristics. LOW MAGNIFICATION—Complete well defined long fibers—absence of fine broken down material or crumpled fibers, generally uniform appearance. HIGH MAGNIFICATION—Fiber ends complete and not broken, fiber walls strong and rigid—no fibers collapsed to any extent—absence of fine jelly-like substances—bordered pits well defined.

Appendix—Curves and Charts

The curves appearing in this appendix having a particular bearing on the theories behind the necessity for complete circulation are plotted from the reports issued by the Forest Products Laboratory, Madison, Wis., on the work by Messrs. Miller and Swanson. They are supplemented to some extent by investigation of the Abitibi research department. These investigators digested crushed chips and sawdust under ideally controlled temperature and acid concentration conditions. By reason of this initial condition of the wood immediately prior to digestion, acid penetration was almost instantaneous and therefore may be regarded as not entering into the problem.

One of the first observations one makes in examining this data is that the yields on a percentage basis are almost in all cases a few percents higher than those obtained in commercial practice. Whilst no data are yet presented to confirm the fact, it would appear from this theory that yields from a circulated digester should more nearly approach these experimentally determined yields since temperature and concentration conditions in the digester are closer to the ideal temperature control which existed in these experiments.

Referring to Curves showing the relations of time at over 140 deg. C to yield, it is seen that from one hour to three hours above this temperature will make a yield decrease of from approximately fifty per cent to forty-five per cent or five on the basis of fifty. With improperly circulated digesters the hot zone illustrated is the one most subjected to these temperatures, whilst the other zones are under less harmful temperatures. What are the losses in the hot zone?

The rate of reaction curves for various temperatures and concentrations when sawdust is cooked are instructive in that they show how rapidly the cooking can be conducted having once secured penetration. They also show the relatively little effect concentration has on the rate when compared with a comparatively small temperature increase.

The third set of curves illustrating the action of a mild acid

concentration and 120 deg. C temperature on sawdust are included only as illustrative of the maximum effects possible under a long period of time.

Referring to the Cooking Charts:

Chart I.—Cook No. 38 shows a normal cook on a 15-ton digester which has had good natural circulation established and illustrates the difference in temperatures indicated by top and bottom thermometers.

Cook No. 33 illustrates how the bottom thermometer indicates poor circulation whilst apparently circulation was normal if judgment was based on the record of the top thermometer alone. The long period through which it was necessary to hold in the digester after maximum temperatures were reached indicates that cooking was incomplete at the normal time.

Diagram I. illustrates the direction of movement of circulation currents or heat distribution in a naturally circulated digester and a mechanically circulated digester.

Chart II. A—Illustrated temperatures of a normally cooked 15 feet x 54 feet digester in 9½ hours compared with a 9½ hour circulation cook on the same digester. (b) Illustrates steaming out. (c) Illustrates the volume of digester liquor contents circulated during the cook.

Chart III.—(a) Two cooks on the same 19 feet x 65 feet digester, the one normal circulation showing temperature extremes and the other illustrating temperature control available by circulation.

III.—(b) Pressure curves for the above mentioned cooks.

III.—(c) Liquor flow for the circulated cook.

Chart VI., (a), (c), (d)—Illustrating respectively, temperature, pressure, steam flow, and circulated liquor flow of two successive cooks on a 19 feet x 65 feet digester.

Samuel M. Langston Co. Joins TAPPI

Joining with the other leading equipment companies, the Samuel M. Langston Company, of Camden, N. J., has just become a member of the Technical Association of the Pulp and Paper Industry. Samuel M. Langston, a graduate mechanical engineer from Cornell University, immediately upon finishing college became associated with his father in what was the forerunner of the present business. He has been the head of the business ever since as president. L. J. List, vice-president, has been with the company since 1915 and E. R. Glover, secretary-treasurer, who is in charge of all office accounting and the general office, has been with it since 1920.

In 1904, the Samuel M. Langston Company moved its plant from Philadelphia to Camden, where it has been located ever since. Among its products are: corrugating equipment, including the machines for producing corrugating board, and converting machinery necessary to make the modern shipping case or containers which frequently require two or three printed colors. It also makes spiral tube or paper can machinery and, of course, it has international renown as major factors in the manufacture of slitters and winders or rewinders for paper and board.

L. J. List will represent the company in the Technical Association.

New Hand Book On Steel Tanks

Lancaster Iron Works, Inc., of Lancaster, Pa., have just published a new hand book on steel tanks which contains a vast amount of information regarding steel plate construction and formulae. The hand book is profusely illustrated and describes in a comprehensive manner specifications of standard sizes and capacities, fire protection and insurance requirements for the use of volatile liquids, specifications of steels for various purposes, and contains a wealth of information and data in connection with design and installation.

TAPPI Notes

G. S. Brazeau, who has until recently been a sales engineer for the Appleton Machine Company, has joined the pulp sales staff of the Northwest Paper Company at Cloquet, Minn.

O. F. Bryant, newly appointed secretary of the Canadian Technical Section, will begin his duties in this capacity on September 1st.

J. B. Clarke has resigned as chemist of the McDowell Paper Mills, Manayunk, and has joined the technical staff of the National Aniline and Chemical Company in New York.

Asbjorn Aasen has just returned from Sweden after a two months' leave of absence from the M. W. Kellogg Company of Jersey City, N. J.

Axel Klingberg has resigned from the Thilmany Pulp and Paper Company of Kaukauna, Wis., and is now chief chemist of the Puget Sound Pulp and Timber Company of Everett, Wash.

H. M. Sutton, formerly with Bird Machine Company of South Walpole, Mass., is now a sales engineer with the Bagley & Sewall Company in Watertown, N. Y.

W. T. Marble, a recent mechanical engineering graduate of Pratt Institute in Brooklyn, N. Y., now is a member of the operating organization of the Scott Paper Company at Chester, Pa.

D. P. Bailey has left the Flintkote Company of Rutherford, N. J., and has joined the research staff of the Champion Fibre Company at Conton, N. C.

A. E. H. Fair has been made general superintendent of the Alliance Paper Mills Ltd., at Toronto, Ontario.

E. B. Eddy Co., Ltd. TAPPI Corporate Member

Having been long recognized as a leader in its field, the E. B. Eddy Company of Hull, Quebec, is welcome as a new company member of the Technical Association of the Pulp and Paper Industry.

Among its numerous products of manufacture are the following: sulphite bonds, writing, lithographic, book, news print, poster, cover, bag, manila, wrapping, tissue, tissue toilet, lined folding boards, wood pulp boards, sheathing and paper toweling. The total production of all these products amounts to 212 tons daily.

Its ground wood and sulphite mill houses 18 grinders, 12 wet machines and 3 digesters and produces 120 tons daily of mechanical pulp, 15 tons of bleached sulphite and 60 tons of unbleached sulphite. The paper mill equipment includes 27 beaters, 7 refiners, 2 washers, one rotary, one 100 inch four cylinder, two 100 inch, one 101 inch, one 117 inch and one 234 inch Fourdriniers and two 84 inch Harper Fourdriniers.

The E. B. Eddy company will be represented in the Technical Association by Charles V. Caesar, general manager.

International Paper Reports for Second Quarter

The consolidated net revenue of the International Paper and Power Company in the second quarter of this year was $10,292,995.18, 11 per cent greater than in the second quarter of last year. The balance available for dividends on the Preferred Class A Common stocks of the company was $601,056.56, compared with $927,641.54 in the second quarter of last year.

In his comments to shareholders, Archibald R. Graustein, president of the company, says:

"The earnings for the second quarter reflect the present adverse business conditions which have made themselves felt through reduced sales or lower prices, or both, on substantially all pulp and paper products. Though general business conditions have not yet shown substantial improvement, it is anticipated that the earnings for the fourth quarter will show a considerable increase owing to continued reduction in costs and to larger power earnings."

Output of electric energy of the International Paper and Power Company in the second quarter of this year was 1,280,585,000 kilowatt hours, an increase of 12 per cent.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C. The charge for this service is 25 cents per page. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency not stamps.

Fillers

Domestic Clay for Filling and Coating Paper. Olin W. Callighan, Edgar Bros. Co., Metuchen, N. J. Paper Trade J. 89, No. 14, 74-79 (Oct. 3, 1929); Paper Mill 52, No. 39, 12-13, 38, 40, 44 (Sept. 28), No. 40, 24-25, 40 (Oct. 5, 1929). A discussion of the merits of domestic (U. S.) clays over foreign (English) clays for filling and coating paper, with a description of their properties and methods of testing.—A.P.-C.

Determination of Particle Size of Fillers for Paper. Herstad. Papir-Journ. 16, 241-4 (1928). The most satisfactory results are obtained when the filler is kaolin of 20 u to 30 u. Of the many types of equipment for measuring particle size the best for this purpose is a sedimentation apparatus designed according to Wiegner-Gessner and equipped with automatic photographic equipment by Lorenz. A complete determination can be made in one day covering fractions from 100 u to 2u.—C.E.P.

Dyes and Dyeing

Two Sidedness of Paper. Anon. Papir-Journ. 17, 159-60 (1929). Three places on the machine are largely responsible for this characteristic of colored papers. On the wire, the fine fibers are lost from the under side of the web causing a denser, more compact formation on the felt side. On the driers, the moisture in passing through the sheet transfers some of the unfixed dye to the upper side of the sheet. In some cases this may rectify the effect produced on the wire. Calendering may enhance the two-sidedness effect considerably, especially if the sheet is affected in this respect previous to calendering. The best remedies are to so regulate beating as to secure a uniform stock, and to choose the proper dyes which may require considerable experimentation.—C.E.P.

Dyeing of Tissue Paper With Acid Dyes Fast To Water. A. Landolt. Papierfabr. 27, 357-362 (1929). Direct dyes on tissue paper give, as a rule, dull shades, while acid dyes, although bright and fast to light, in many instances give dyeings which are not fast to water. Many acid dyes, however, can be made fast to water by treating the dyed paper with aluminum acetate. The amount of the acetate to be added should be sufficient to ensure fixation of the dye but insufficient to cause precipitation of dyestuff in the dye bath; suitable proportions are: 10 grams of dyestuff, 400 cc. of 5% aluminum acetate solution and 1 liter of water. Lake formation can be prevented with many dyes by increasing the hydrogen ion concentration by the addition of 20-50 cc. of acetic acid per liter of dye bath. Suitable dyes are Kiton Yellow S., Kiton Yellow 3GN, Paper red PSN, Benzyl Red B, Brilliant Benzyl Violet 3B, Cloth Fast Brilliant Red 4B, Pure Blue BS1, Benzyl Green B and Acid Black HA. The fastness to water is tested by soaking the dyed paper in distilled water for 10 minutes and comparing the results with an untreated portion. A dyeing fast to water should neither change in shade nor stain the water. The handle of paper treated with aluminum acetate is somewhat firmer. —C.J.W.

Influence of "Saftbraun" Dyeing on the Strength of Paper. A. Schlatter. Papierfabr. 27, Fest- u. Auslandheft, 94-95 (1929). "Saftbraun" is a dye obtained by treating a mixture of brown coal and Cassel earth (ocher) with soda. When it is used for dyeing packing paper, the strength of the latter, as shown by tearing length and bursting pressure, increases with increasing dye concentration and then falls off. The tearing length shows a maximum corresponding with 6.5% and the bursting pressure a maximum at 5% dye content. For larger amounts of the dye the bursting pressure curve falls more slowly than the tearing length curve. The increase in strength thus caused by the dye is attributed to its impregnating and binding properties—C.J.W.

Influence of Size and Alum on the Coloring of Paper in the Beater With Aniline Dyestuffs. P. W. Carr. National Aniline and Chemical Co. Paper Maker and Brit. Paper Trade J. International No. 61-62 (1929). A very brief discussion of the effects of size and alum on the coloring of paper in the beater by means of basic, acid and direct dyes.—A.P.-C.

Goldenrod Shades on Paper. J. A. Meltzer, National Aniline & Chemical Co. Paper Maker and Brit. Paper Trade J. International No. 96, (1929). A brief discussion of the method of using the following National dyes for production of golden rod shades on paper: Solantine yellow FFP conc., Erie yellow YP, Erie yellow S2GP conc., Erie yellow SGP, Erie yellow SRP conc., Metanil yellow P conc., and AuramicOP conc.—A.P.-C.

Coloring Paper. Nikolai Woroshtzow. U. S. pat. 1,719,159, July 2, 1929. The material is treated with 1-nitronaphthalene-7-sulphonic acid or other suitable nitronaphthalene compounds which contain a nitro group and a sulphonic acid group, and then exposed to light.—A.P.-C.

Dyeing Paper. I. G. Farben-Industrie Aktien-Gesellschaft. Eng. pat. 314,068. A paper web or paper pulp is colored by means of dyestuffs which appear to be oxazines and are prepared by sulphonating the product obtained by heating high-molecular diarylaminobenzoquinones in the presence of a high boiling solvent, or by treating diarylaminobenzoquinones according to Eng. pat. 313,094. Thus the dyestuffs may be obtained by sulphonating the condensation products of chloranil with primary amino derivatives of a heterocyclic base, having a free ortho position to the primary amino group. According to examples, a diluted and beaten paper pulp is dyed by means of the following dyestuffs, prepared as stated, the paper mass being subsequently sized with resin soap and sulphate of alumina or alum in the usual manner: (1) the sodium salt of the dyestuff sulphonic acid prepared according to example 1 of pat. 313,094 from 2,5-di (N-ethylcarbazolyl-3-amino)-3,6-dichlor, 4-benroquinone; (2) the sodium salt of sulphonic acid obtained by sulphonating the product produced by heating di-beta-naphthylamino)-dichorobenzoquinone in nitrobenzene; (3) the sodium salt of the sulphonated oxazine-like product made by treating 2,5-di (orthoaminodiphenyloxide)-3,6-dichlor-1,4-benzoquinone with nitrobenzene and phosphorous pentachloride; (4) the sulphonic acids of products obtained by condensing chloranil with para-amino-diphenylamine, 4-amino-4-methoxy-dipheny-lamine, para-aminodimethylaniline, para-toluidine and para-chloraniline.—A.P.-C.

Pulp Testing

Testing of Pulp. Gosta Hall. Svensk Pappers-Tidn. 32, 151-8 (1929). A critical review of the proposal of TAPPI to formulate strength tests on unbeaten pulps. Tests on unbleached sulphate pulps show that proper differentiation does not occur unless the pulp is beaten. Unbeaten tests were as follows:

No.	Quality	Per Cent Bleach	Per Cent Lignin	Breaking Length Meters	Bursting Strength	Folds	Tearing Strength
1.	Hard Kraft	55.5	7.7	2320	39	79	201
2.	Soft Kraft	43.6	4.7	2350	41	111	208
3.	Strong Sulphate	28.3	3.1	2370	40	62	193
4.	Easy Bleach Sulphate	18.8	1.7	2860	46	228	190

Maximum values after beating classified the same pulp as follows:

No.	Breaking Length	Bursting Strength	Folds	Tearing Strength
1.	9900	163	3700	50
2.	8760	138	3099	54
3.	8170	123	2055	47
4.	6430	95	873	46

A tentative standard beating and testing method has been formulated and adopted by 10 Swedish mills for both sulphate and sulphite. The method is given in detail. Standard instruments specified are the Lampen mill, Schopper-Reigler freeness tester, and the Sandberg-Bergman circular sheet machine. —C.E.P.

Strength Testing of Wood Pulp. Harry C. Bradford. Rex Paper Co., Kalamazoo, Mich. Paper Trade J. 89, No. 16, 53-54 (Oct. 17, 1929). A description of the method for determining the beaten strength of pulp worked out by the pulp committee of the mills in the Kalamazoo valley. The Valley Iron Works Niagara type of experimental beater is used, and was found to give approximately the same test as given in a large beater. It gives about the same test in 60 minutes as a ball mill in 30 minutes.—A.P.-C.

Physical Standards for Pulp. Donald E. Cable. Paper Mill 52, No. 40, 12, 14, 44 (Oct. 5, 1929); Paper Trade J. 89, No. 17, 45-46 (Oct. 24, 1929); Pulp Paper Mag. Can. 28, 677-678 (Oct. 31, 1929). An outline of the program of the Committee on Physical Standards for Pulp of the Technical Association of the Pulp and Paper Industry.—A.P.-C.

Beater Method of Evaluating Pulp. H. A. Rothchild, A. Ely and F. Poppe, Kimberly-Clark Co., Neenah, Wis. Paper Trade J. 89, No. 14, 72-73 (Oct. 3, 1929); Paper Mill 52, No. 38, 10, 28, 30 (Sept. 28, 1929); Pulp Paper Mag. Can. 28, 567-570, 587 (Oct. 10, 1929). A brief description of the equipment, procedure of testing and interpretation of results as carried out in the mills of the Kimberly-Clark Co.—A.P.-C.

Making Hand Sheets of Uniform Thickness. F. M. Williams. Paper Trade J. 89, No. 12, 44 (Sept. 19, 1929). A brief discussion of the importance of the construction of the supporting plate underneath the wire screen in sheet-making machines. The best form of construction, especially where uniform thickness of sheet is required, as in pulp evaluation tests, consists in making the supporting plate with rectangular openings forming a series of cross ribs, the tops of which may be dressed to nearly a sharp edge, thereby presenting practically no flat metal surface to impede the flow of water through the screen at certain points.—A.P.-C.

Bibliography of Wood Pulp Strength Testing. W. F. Moore. United States Testing Co. Paper Trade J. 89, No. 12, 62-72 (Sept 19, 1929) A review in the form of abstracts of 63 articles published on the subject since 1915 (one reference in 1905).—A.P.-C.

British Initial Pulp Strength Testing Method. Ainsworth Harrison. Paper Trade J. 89, No. 10, 61-63 (Sept. 5, 1929). A detailed description of the method recently adopted by the Technical Section of the Paper Makers' Ass'n of Great Britain and Ireland for the determination of the unbeaten strength of pulp. —A.P.-C.

Identification and Evaluation of Unbleached Chemical Wood Pulps. Gosta A. Hall, Korsnas Wood Pulp Mills, Gefle, Sweden. World's Paper Trade Rev. 91, 1340-1354, 1396-1398, 1442, 1444, 1484-1492, 1530, 1536, 1586, 1588, 1630-1638, 1676-1688, 1738-1750, 1818-1834, 1906-1916 (Apr. 9,-May 31, 1929); Paper Maker and Brit. Paper Trade J. 77, 479-487, 591-595; 78,17-23 (May 1-July 1, 1929); Zellstoff u. Papier 9, No. 9, 601-606 (Sept. 1929); Paper Maker's Mo. J. 67; No. 6, 247-250; No. 7, 291-293, 295; No. 8, 332-335; No. 9, 374-379 (June-Sept. 1929); Papier 32, No. 9 953-964; No. 10, 1059-1096 (Sept.-Oct. 1929). The relation between the treatment and properties of unbleached chemcal wood pulps, particularly unbleached sulphite and sulphate pulps, is discussed in the light of the author's investigations. The determination of the unbeaten strength is not considered to be applicable for general use for unbleached pulps: with sulphite pulps the correspondence between the strength properties of the unbeaten pulps and the properties developed through beating is rather good, though not entirely reliable (e.g., bleached sulphite might appear stronger than direct-cooked unbleached sulphite); but with unbleached sulphate pulps the results might be entirely misleading, as differences in strength between various types of pulps are minimized and the weakest pulp might be classified as the strongest. The reason for this is attributed to the fact that the strength properties indicated by tests on unbeaten pulp are almost exclusively dependent on the felting capacity of the pulp, the fibers simply pulling apart without rupture in the tensile and bursting tests, while under similar conditions the fibers of any machine-made coarse paper break to a large extent, so that it is impossible to predict the character of the paper from tests on the unbeaten pulp. The tearing strength constitutes an exception, and tearing tests on the unbeaten and beaten pulps correspond remarkably well, so that this test might be applicable to unbeaten pulps directly. The results obtained by beating in the Abbé pebble mill and in the Lampén ball mill are compared and discussed. A modification of the Sandberg and Bergman sheet-making machine has been devised, having the following main features: (1) a homogeneous pulp mixture is ensured by keeping the highly diluted pulp in a "stock chest" placed right above the sheet mold and fitted with propeller agitators. (2) The pulp is poured from the stock chest into a circular deckle-box through a distributing cone in the mouth of the outlet pipe, ensuring fairly uniform distribution of the fibers and avoiding irregular current in the liquid. (3) The machine is equipped with loose ring-shaped wire cloth frames consisting of two separate parts tightened with screws, so that the cloth can be stretched thoroughly when being fastened in the frame; the wire frame, with the sheet attached, can be transferred directly to a press and the couching performed by a slight mechanical pressing. (4) The sheets are couched on to gloss plates of the type used in photographic work; the sheets are pressed and dried attached to the plates, so that the drying is always performed under constant tension. (5) The sheets are dried for 30 to 60 minutes at 50° to 60°C. in contact with an electrically heated cylinder which does not rotate during the drying but can be turned around to facilitate insertion of the plates. When making test sheets from pulp having received the same treatment as when it is formed into paper on the machine (say taken about the first wet press), if the pressure used is of the same magnitude as that on the paper machine, the laboratory paper is much stronger, (tensile, bursting and folding tests) on account of the more uniform distribution of the fibers; if the pressure is lowered to about 200 lbs. per square inch, the character of the laboratory paper compares rather well with that of the machine made paper, showing that the influence of the decrease in pressure is then just about compensated by the better formation; at lower pressures the paper gets too porous. Laboratory made paper pressed at about 200 lbs. does not show higher tearing strength than machine made paper, as could be expected on account of the lower pressure, which fact indicates that tearing strength should be inversely proportion

to the formation. The fine fiber fragments contained in the white water increase the tensile and bursting strengths and lower the tearing strength and porosity. Lampén mill beating gives a decidedly stronger (particularly as regards tensile and bursting strength) and stiffer paper than paper mill beating at the same freeness. The pressure would have to be reduced to about 50 lbs. in order to get a paper of the Lampén mill beaten pulp with approximately the same strength properties as those of the machine made paper; but the laboratory paper thus prepared is considerably more porous than the machine-made paper. The factors of paramount importance to the character of chemical wood pulp are the character of the wood used, the degree of cooking, and the treatment given the wood in the pulping process, each of which is briefly discussed. The results of a series of beating tests carried out on hard kraft, soft kraft, "strong kraft", bleachable sulphate, direct cooked sulphite and indirect cooked sulphite pulps led to the following conclusions, which indicate general trends only: (1) Sulphite pulps are generally more easily hydrated than sulphate pulps of corresponding bleachability, which is due to the lower alpha-cellulose and higher polysaccharide (beta-cellulose) contents of the former. (2) A direct relation between lignin content on the one hand and folding, bursting and tensile strength on the other hand must exist; the strength as indicated by these three properties increases with the lignin content. (3) The tearing strength shows a maximum at a lignin content of about 5% both in the sulphate and in the sulphite series. (4) The sulphite pulps cooked with the indirect steam show, relatively to the sulphate pulps of corresponding bleachability, higher bursting and tensile strength, but lower folding endurance and tearing strength. (5) The difference in strength between the direct cooked and indirect cooked sulphite pulps are larger than what can be expected from the differences in lignin content alone, which is probably due partly to the difference in beta-cellulose content and partly to the fact that direct steaming is more harmful to the strength of the fiber than indirect steaming. (6) The porosity is a more pregnant indicator of the beating condition of the fiber than the "freeness" or "degree of beating"; from a practical viewpoint, however, the porosity cannot replace the freeness test, as the determinations can be performed only on the finished paper, and moreover the porosity of the machine-made paper is dependent not only on the degree of beating of the pulp but also on the magnitude of the vacuum in the suction boxes and the pressures applied at the presses, as well as the extent to which white water has been re-used. Tests on samples taken at regular intervals during a mill run indicated that it is hardly possible to establish a fixed relation between the fluctuations in strength properties and porosity which occur in the manufacture of machine-made paper. (7) At the same degree of beating and the same lignin content, the sulphate pulps give more porous paper than corresponding papers made from the sulphite pulps. (8) If paper is made from sulphate pulp of various degrees of cooking by beating the pulps various lengths of time so as to obtain a paper of the same strength out of all the pulps, the porosity of such a paper is directly dependent on the cooking degree of the pulp, i.e., the harder the pulp the more porous the paper produced from it. (9) The color of sulphate pulp is directly dependent on the stage at which cooking was stopped, the less cooked the darker the pulp, and vice versa. (10) Sulphite pulps generally give a less absorbent paper than sulphate pulps; the absorbency stands in direct proportion to the degree of cooking for both kinds of pulps. (11) There is a considerable difference in "self-sizing" through beating between sulphite and sulphate papers, which is attributed to the rosin and beta-cellulose, the latter, upon beating, gradually disintegrating and filling up the interstices between the fibers, making the paper less absorbent. The discussion by those present at the presentation of the paper is also given.—A.P.-C.

Wood Pulp. Frans K. L. Schouten. U. S. pat. 1,717,266, June 11, 1929. Comminuted wood is subjected to "dry refining" with sufficient friction to vaporize its normal water content, and is then subject to "wet refining" in mixture with added water controlled as to quantity so as to permit the frictional heat incident to the refining to elevate the temperature of the mixture to such a point as to give the pulp the character of hot-ground pulp.—A.P.-C.

Process of Making Wood Pulp. Howard F. Weiss assignor to Bauer Bros. Co. U. S. pat. 1,711,706, May 7, 1929. Wood is saturated with water and is then subjected in the presence of water to the rolling and crushing action of two oppositely and concentrically revolving disks under pressure to separate the fiber.—A.P.-C.

Strength Testing of Cellulose. G. Hall. Papierfabr. 27, 341-347 (1929). American proposals for the standardization of methods of testing strength of cellulose are examined and criticized and a report of such attempted standardization in Sweden is made. The relative importance of physical tests used for paper, such as tearing strength, resistance to creasing, the bursting test, porosity, etc., in relation to degree of grinding, weight and other properties of the material is examined and recommended conditions under which these tests should be carried out are discussed.—C.J.W.

Freeness. H. E. Jorgensen. Papier-Journ. 16, 239-41 (1928). Freeness determinations as measured by instruments having different mesh screens are in logarithmic relation to each other, and readings from one instrument may be converted to another by a straight-line graph on log paper. A graph is also presented to co-ordinate readings taken on an American freeness tester, with 3 or 4 grams pulp per liter and with a German "Mahlungsgrad" tester using 2 grams per liter.—C.E.P.

Strength of Cellulose Pulp. A Küng and E. Seger. Papierfabr. 27, Fest-u. Auslandheft, 96-102 (1929). Strength tests on an unbleached Mitscherlich cellulose and on a bleached cellulose were carried out after different periods of milling (a) by the usual scientific methods and (b) by simplified methods used in industrial works. The results obtained show that better results are obtained by grinding to a definite degree than by grinding to time.—C.J.W.

Study of Fiber Wall Boards for Developing Specification Standards. B. W. Scribner and F. T. Carson, U. S. Bureau of Standards. Paper Trade J. 89, No. 13, 61-68 (Sept. 26, 1929). Results are given of a study of vegetable fiber wall boards undertaken by the paper section of the Bureau of Standards to secure information that would assist in the formulation of purchase specifications for this product. Suggestions are made to assist those who wish to write purchase specifications for fiber wall boards, the suggestions being made with consideration of the technical information developed by the study and of the manufacturing and usage conditions. One specification covering both laminated and homogeneous boards appears to be feasible. The properties considered important in evaluating the quality of the boards are strength, water absorption and expansion; and form consideration of the average quality of commercial brands in use, as shown by laboratory data, the following requirements are suggested: flexural bending strength, not less than 10 pounds for the shorter direction of the board; water absorption, not more than 65% of the original weight of the board; expansion, not more than 0.7% in the shorter direction of the board. The methods to be used for testing are described. These requirements are well within the limits of most of the commercial products in use at the present time and are believed suitable for the purchase of boards of good average quality.—A.P.-C.

Process and Apparatus for Treating Fibrous Materials. S. D. Wells. Fr. pat. 660,460, Sept. 14, 1928.—This is the French patent covering the rod mill and its use for beating pulp. —A. P.-C.

Section of the

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of the

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Edited by T. J. Burke C. A. Director Cost Dept.

Overhead Control and Net Profits

By Thomas J. Burke, C. A.[1]

The subject assigned to me for this meeting, would appear to be a question that should be easily answered by most of us. "Overhead Control" presumably means keeping a check on those expenses which cannot be directly related to the making or the selling of our products. In a gathering of this kind, it is unnecessary for me to list these expenses or to emphasize the importance of keeping them down to a minimum, if net profits are to be adequate.

Net Profits Tended to Narrow

My experience has been mainly with the pulp and paper industry, with which I have been connected for the past ten years, and during the latter part of this decade there is no doubt that our net profits have tended to narrow under modern conditions. In fact, this would appear to be the case in all industries today. Recently I made a study of the income tax returns, and found that for the years 1927 and 1928, the pulp and paper industry was at the head of the manufacturing industries, as far as the percentage of corporations making a profit was concerned. That is to say, that in our industry about two out of three corporations reported some net income, whereas, all other manufacturing industries showed a lower percentage than this. The following are the figures for 1927:

	Per Cent of Total Corporations Reporting Net Income
INDUSTRIAL GROUPS:	
Paper, Pulp and Products	66.54
Printing and Publishing	63.06
Leather and Leather Products	60.06
Textile and Textile Products	59.49
Food Products, Beverages and Tobacco	59.47
Metal and Metal Products	56.00
Stone, Glass and Glass Products	55.25
Chemicals and Allied Substances	54.78
Lumber and Wood Products	53.46
Rubber and Related Products	51.14
All other manufacturing industries	50.68
OTHER INDUSTRIAL GROUPS GIVEN RATES AS FOLLOWS:	
Construction	57.10
Transportation and other Public Utilities	60.47
Trade	61.09
Service	53.48
Finance	56.83

Now those figures simply signify that a larger percentage of corporations in our industry made some profit in the tax year 1927, than in any other industrial group, but I can assure you, that our profits were far from being what they should have been, and there is no doubt that the tendency is more and more for net profits to get smaller and smaller. It is not my belief that overhead has a great deal to do with this difference, nor that smaller industries are making any better profit records than larger industries.

Competition Forces Price Reductions

You all know, as well as I do, the cause of the narrowing profit margin. Competitive conditions have forced price reductions until these margins have practically disappeared in many industries. Consequently cost control and not only "overhead" control has become essential to management.

I do not know who framed the questions on the folder sent out in advance of this meeting, but the second question would seem to indicate a belief that on account of smaller overhead expense, smaller industries are able to show a better profit record. This may be true but as stated above, it does not coincide with my opinion. It is true that overhead must be reduced to a minimum, but so must *all* costs and expenses. I use the two words because I have gradually formed the habit of using the word "costs" as applying to those expenditures or liabilities incurred in actually fabricating and packing the product ready for shipment at the mill door, and the word "expenses" as applying to those expenditures or liabilities incurred in actually fabricating and packing the product ready for shipment at the mill door, and the word "expense" as applying to those expenditures incurred in selling or distributing it. In other words, the thought is, that the "expenses" add nothing to the intrinsic or inventory value of the product, which should be entirely made up of "costs".

My reaction to the whole problem is, that good management is paramount and by "good" management, I mean management that not only controls its overhead expenses, but all costs and expenses, and in addition, has a well devised plan for distributing and selling its products when made. This selling problem is looming larger and larger on our horizon as one that must be faced and solved as many of our production problems have been in the past. I mean this of course, from a management control viewpoint, which means analyzing and controlling our distribution, selling and advertising expenses. However I am digressing somewhat from the subject assigned to me.

Now, perhaps, some of you can answer some of the questions raised by your indefatigible Secretary, Mr. Donald (I am blaming him for these questions, you see), I can only give you my opinion regarding them.

My opinion then is, that the most practical way of measuring in advance overhead effectiveness is to set up standards of measurement by means of ratios. For example, I will give you some average ratios drawn up several years ago by the Cost Association of the Paper Industry:

	Per Cent
Manufacturing Materials and Supplies	56.54
Manufacturing Wages and Salaries	14.16
Power Plant Materials and Supplies	5.13
Power Plant Wages and Salaries	1.86
Repair Materials and Supplies	3.02
Repair Wages and Salaries	1.56
Purchased Power	1.84
Depreciation, Insurance and General Expenses	6.05
Administrative and Office Expenses	4.60
Selling Expenses (including advertising)	4.02
State and Local Taxes	1.22
Total Costs and Expenses	100.00%

[1] Director, Cost Dept., American Paper and Pulp Association.

Those ratios were compiled from a study of returns received from approximately 50 paper mills. Of course, they served only as indicators. Undoubtedly better standards of measurement can be devised but not until uniform accounting methods are employed.

It is by such studies as these, as well as by carrying on a general agitation of the whole question of proper accounting control, that such organizations as the Cost Association of the Paper Industry have justified their existence and proved their value. It is a slow educational process as anyone familiar, for instance, with the history of the United Typothetae of America, is fully aware. In my opinion, they are doing more for their industry along these lines than is being done anywhere for any industry. But remember they started with the so-called Franklin Clubs nearly 30 years ago, and have carried on continuously ever since until today, their work is undoubtedly of inestimable value in setting standards for their industry.

In my opinion, the outstanding means of controlling overhead and in fact all costs and expenses, is by setting up standards and by adopting the budget system throughout. The setting of standards for costs, of course, contemplates a thorough survey of the machinery and equipment so that the best possible plan may be adopted through the manufacturing operations.

A "practical" standard somewhat below the best possible, may then be set up for each department and the overhead expense allocated on this basis.

The Most Difficult Part of the Work

The most difficult part of the work today, it would seem is to set up an estimate of sales on which to base the production schedule and in fact, the whole budget for the fiscal period. Many concerns are setting up two or even three budgets based on different sales estimates and in this manner, can at all times estimate fairly accurately what their net profits are likely to be, if any.

I would say the outstanding means for controlling overhead is by making "authority" coincide with "responsibility". This will eliminate "passing the buck".

If a man is head of a department, he must be fully responsible for the work of that department. He must, in turn, be supplied promptly with facts and figures relating to the work done in his department, compared with the "standard costs" also the budget figures, thus enabling him to take prompt action where and when necessary. You have all heard the saying "Time is the essence of the contract". That saying applies with double force today to management charged with the contract of making net profits in perhaps the best buyers' market that ever existed in this country.

As I said before, our big problem now is selling and distributing. That's where the main thought of management must be directed, but it is thus all the more essential and of the essence of the contract to make profits that management should be supported in attacking this problem by a production plan, based on standard costs and budgets, so that it may always be fully informed about those things with which it is possible to keep in the closest touch and thus be in the best possible position to meet the many difficulties that will arise in selling and marketing the product at a price sufficient to net a fair and reasonable profit.

In our industry, the so-called "bottle-neck" is the paper machine. These machines, as you know, are very expensive and have to be run continuously to net even a fair return.

Selling Paper Machine Time

What we are in fact selling is, the time of our paper machines. Sixty-Six hundred hours is a fair estimate of the time they may be expected to run during a year. Now, if we know the relationship between the amount our total sales are likely to gross and our total "capital employed," it is not difficult for us to forcast what our net profits are likely to be, if any. As a matter of fact, it may interest you to know, that on an average, if our total "capital employed" is $1,000,000, our sales should average $1,000,000. Suppose we have two paper machines of equal size, that means we can average about 13,200 hours running time during the year. We want to make 10 per cent on our capital or $100,000 a year. You can easily see then that we should make about $7.50 net-profit per machine hour.

You will note, I say, "we should make"; whether we do or not, depends on the mill management. And that's where I am going to close this somewhat rambling talk. As I see it, today, everything depends on management. Banks will back the "man" rather than the mill. They know the "man" will soon size up the mill and if it's no good say so, or else make it good, if that's possible. Overhead control does, of course, affect Net Profits to some extent, but is merely one of the lesser tools of a well informed management.

New System for Wood Pulp Supply

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., August 11, 1930.—A new system for utilizing the wood pulp supply at both mills of the National Paper Products Corporation is nearing completion under the direction of the contracting firm of Hodge & Foster. Both ground wood and sulphite tanks are being installed to supply the two mills with pulp in a wet form which will dispense with the labor of making it into laps and the beating up of the stock before it is used on the paper machines. The ground wood tank is located in the mill yard with dimensions of 29 feet in diameter and 80 feet in height. The interior is supplied with wheels driven by electric motors which keep the stock constantly in motion and prevent the settling of the solid pulp to the bottom of the tank. Thus the pulp is at all times in liquid form.

The sulphite tank is approximately the same size as the other and installation is to be made inside the sulphite mill, replacing the location of the present chippers. The tank will be built entirely of reinforced concrete on account of the action of the acid in the sulphite pulp which corrodes the steel. Both tanks are to be connected with similar ones at the West End Mill, recently acquired by the National Paper Products Co., by means of two wooden pipe lines each ten inches in diameter on the inside. The distance from each mill is about a half a mile and along these pipe lines is being laid a three inch water line with concrete manholes every five hundred feet apart to allow flushing out when necessary.

The chippers and splitting machines are to be moved into a separate building situated across the canal from the sulphite mill. A new building constructed of concrete and steel is now being completed to carry these heavy machines which will be electrically operated. The wood warehouse is to be connected with the sulphite mill by a steel conveyor bridge which is constructed of iron and covered with asbestos roofing and corrogated siding. The bridge rests on steel towers considerably above the grade of the wood room so that the chips are carried into a new pent house above the roof line of the present sulphite mill from which they are spouted directly into the digestors, enabling very economical handling.

About one hundred workmen are now being employed on the extensive improvements now under way and it was learned that about $125,000 is being expended by the Crown-Zellerbach interests. William P. Beech, prominent paper mill designer of the V. D. Simmons Company, Chicago, is in charge of the work which is expected to be completed late in the fall. Both mills are under the personal direction of E. B. Eddy with Napoleon Rigabor serving as general superintendent.

Gilman Paper Co.'s New Line

[FROM OUR REGULAR CORRESPONDENT]

GILMAN, Vt., August 18, 1930.—The Gilman Paper Company have completed very satisfactory tests on their new line, No. 1 Northern Spruce Kraft, which show it to be among papers of the highest quality. The tests, Mullen, tensile, and tear, were made in their new modern laboratory, which is properly humidified, with an engineer in charge.

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending May 31, and for the Five Months Ending May 31, 1930 as Compared with Corresponding Month of Previous Year

IMPORTS—PAPER

	May				Five Months Ending May 31			
	1929		1930		1929		1930	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
PAPER AND MANUFACTURES	.....	$13,909,592	.....	$13,545,175	.....	$63,824,953	.....	$62,059,431
Printing paper—								
Standard news print ..... lbs...free	412,071,218	12,274,371	415,210,123	12,132,371	1,858,635,577	56,381,909	1,867,773,470	54,489,531
Imports from:								
Finland ..... lbs.	6,621,705	152,498	5,953,918	136,059	21,530,772	521,111	38,796,286	895,512
Germany ..... lbs.	1,534,822	37,162	2,510,339	60,942	6,566,184	165,593	9,900,918	242,204
Norway ..... lbs.	56,244	1,551	714,809	16,964	4,520,141	112,919	7,240,071	172,280
Sweden ..... lbs.	6,344,050	158,319	11,147,786	274,594	38,196,065	978,005	61,542,885	1,520,295
Canada ..... lbs.	373,266,480	11,234,553	370,835,331	10,956,121	1,723,691,248	52,802,436	1,681,294,330	49,691,311
Newfoundland and Labrador ..... lbs.	24,247,917	690,288	24,047,940	687,691	64,131,167	1,801,845	68,998,980	1,967,929
All other, n. e. s. ..... lbs...dut.	426,303	15,972	261,302	10,921	1,736,788	79,832	1,200,649	56,417
Greaseproof and waterproof papers.... lbs...dut.	127,970	28,849	62,492	17,573	586,117	120,446	669,619	227,930
Kraft wrapping paper ..... lbs...dut.	652,827	27,627	647,859	26,173	3,727,534	159,861	3,878,413	155,992
Other wrapping paper ..... lbs...dut.	798,548	23,494	284,708	12,936	3,089,074	92,307	1,074,900	61,208
Writing, letter, drawing, etc., papers.. lbs...dut.	273,419	64,383	289,407	75,024	1,266,103	318,218	1,623,531	417,071
Surface-coated paper ..... lbs...dut.	306,014	112,890	156,181	64,567	1,139,872	479,111	966,551	379,173
Tissue, copying, etc., papers..... lbs...dut.	418,811	233,635	402,410	251,224	1,812,428	971,385	1,919,704	1,034,901
Paper boards, n. e. s.—								
Pulp boards in rolls ..... lbs,..dut.	5,611,025	122,647	5,184,361	114,143	26,068,017	580,851	23,277,512	541,516
Paper boards, pulp board, and card-board ..... lbs...dut.	2,638,004	56,960	1,406,391	29,864	9,628,421	223,022	6,947,262	163,857
Leather board, test and wall board.. lbs...dut.	196,539	7,135	175,417	7,385	758,299	28,688	688,608	34,446
Cigarette paper, cigarette books, and covers ..... lbs...dut.	1,110,834	340,778	1,008,687	341,594	5,061,361	1,653,635	5,308,416	1,833,583
Hanging paper (wall paper) ..... lbs...dut.	214,409	55,015	101,936	48,194	1,234,777	340,846	1,308,831	361,359
Duplex decalcomania paper, not printed lbs...free	54,585	19,311	32,776	7,821	286,473	74,052	217,150	51,616
Paper boxes ..... dut.	.....	163,302	.....	129,305	.....	646,029	.....	585,987
Pulp or paper-mâché and manufactures, n. e. s. ..... dut.	.....	28,597	.....	27,120	.....	249,876	.....	268,246
All other paper and manufactures..... dut.	.....	334,626	.....	248,960	.....	1,424,885	.....	1,396,598
WOOD PULP								
Mechanically ground wood pulp..... tons..free	18,789	438,500	15,564	432,349	90,087	2,286,761	118,441	3,317,884
Sulphite wood pulp ..... tons	81,997	4,896,887	64,813	3,839,859	400,260	23,495,272	420,409	24,662,349
Unbleached ..... tons..free	50,116	2,529,739	42,002	2,187,652	262,038	13,087,551	283,054	14,603,537
Bleached ..... tons..free	31,881	2,367,148	22,811	1,652,207	138,222	10,407,721	137,355	10,058,812
Imports from:								
Finland ..... tons	8,411	409,887	6,709	337,059	46,336	2,160,480	41,061	2,084,589
Germany ..... tons	8,690	623,865	3,148	201,988	27,321	1,893,509	31,491	2,126,291
Norway ..... tons	4,916	301,131	6,005	367,332	23,866	1,583,701	28,037	1,811,719
Sweden ..... tons	20,615	1,180,538	20,573	1,168,041	141,109	7,859,816	154,363	8,479,872
Canada ..... tons	35,538	2,185,605	26,569	1,651,132	150,958	9,427,184	158,077	9,763,921
Other countries ..... tons	3,827	195,861	1,809	114,307	10,670	570,582	7,380	395,957
Sulphate wood pulp, unbleached (kraft pulp) ..... tons..free	23,508	1,301,737	22,660	1,095,110	125,160	6,966,929	148,283	7,493,712
Imports from:								
Finland ..... tons	2,698	125,424	3,950	188,579	10,882	513,213	17,937	818,392
Norway ..... tons	1,998	100,601	860	34,404	6,240	346,103	6,109	291,115
Sweden ..... tons	9,036	460,920	11,011	478,197	58,673	3,049,726	87,182	4,165,159
Canada ..... tons	9,407	596,043	6,225	368,821	46,466	2,922,191	34,232	2,093,876
Other countries ..... tons	369	18,749	614	25,109	2,899	135,696	2,823	125,170
Sulphate wood pulp, bleached..... tons..free	941	63,268	1,670	143,515	6,094	437,584	5,437	447,228
Other pulp ..... tons..free	503	50,038	362	26,397	2,474	194,797	1,906	138,931
CRUDE PAPER STOCK								
Rags for paper stock..... lbs...free	43,643,859	935,310	30,333,061	574,174	170,666,008	3,405,395	165,783,090	3,479,514
Waste bagging, waste paper, etc. ..... lbs...free	12,485,468	144,321	9,005,899	97,060	57,448,481	699,143	51,550,561	597,678
Old rope and all other paper stock.... lbs...free	17,205,894	445,989	10,942,599	229,300	44,581,156	1,361,415	57,596,589	1,097,727
CHEMICALS AND OTHER PAPER MAKERS' MATERIALS								
Colors, dyes, stains, color acids, and color bases, n. e. s..... lbs...dut.	798,800	892,317	362,890	380,555	3,664,072	4,213,160	2,234,339	2,409,748
Imports from:								
Belgium ..... lbs.	7,777	12,169	7,683	9,276	25,676	32,654	24,543	28,141
France ..... lbs.	3,361	3,412	1,471	1,428	61,291	85,756	13,528	17,797
Germany ..... lbs.	519,853	569,240	263,585	279,279	2,630,049	2,965,354	1,354,236	1,464,602
Italy ..... lbs.	1,981	2,094	.....	.....	3,961	4,198	.....	.....
Switzerland ..... lbs.	241,931	275,757	82,783	83,647	870,287	1,044,015	787,846	849,550
United Kingdom ..... lbs.	14,642	17,278	6,395	5,754	41,412	46,825	31,896	31,373
Other countries ..... lbs.	9,255	12,367	973	1,171	31,396	34,358	22,290	18,285
Casein or lactarene..... lbs...dut.	3,480,423	423,793	4,287,702	439,545	16,124,618	1,916,822	15,669,633	1,745,587
Kaolin, china, and paper clay ..... tons..dut.	42,247	449,629	11,510	124,693	113,106	1,231,525	112,554	1,193,048

(Continued on page 70)

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 69)

EXPORTS—PAPER.

	May 1929 Quantity	May 1929 Value	May 1930 Quantity	May 1930 Value	Five Months Ending May 31 1929 Quantity	Five Months Ending May 31 1929 Value	Five Months Ending May 31 1930 Quantity	Five Months Ending May 31 1930 Value
PAPER AND MANUFACTURES	.....	$2,818,743	.....	$2,757,701	.....	$15,912,781	.....	$14,239,225
Printing paper—								
News print paper ....lbs.	2,394,816	84,986	1,316,582	48,327	14,291,492	520,234	10,270,387	420,158
Exports to:								
Europe ....lbs.	42,597	1,934	49,946	1,112	204,644	11,518	785,173	44,848
Canada ....lbs.	248,415	10,039	1,894	80	415,386	18,903	19,245	843
Central America ....lbs.	100,155	3,570	48,497	1,787	460,933	16,608	725,293	26,214
Cuba ....lbs.	323,200	11,030	264,928	9,728	1,368,168	48,862	1,297,454	55,862
South America ....lbs.	321,414	10,910	427,014	15,142	3,924,328	142,160	2,534,145	84,219
China, Hong Kong, and Kwantung...lbs.	545,642	18,263	.....	.....	2,966,692	99,697	1,493,888	85,128
Philippine Islands ....lbs.	693,818	23,736	410,470	15,585	4,364,646	155,744	2,826,226	100,913
Other countries ....lbs.	119,575	5,504	113,833	4,893	586,695	26,742	488,963	22,131
Book paper, not coated ....lbs.	3,254,371	210,607	2,930,535	197,626	16,665,707	1,160,405	17,051,576	1,126,344
Exports to:								
Europe ....lbs.	72,670	5,413	20,449	3,117	918,904	76,158	320,294	30,487
Canada ....lbs.	1,533,141	89,446	1,221,303	71,112	5,721,133	345,989	4,825,824	283,304
Mexico ....lbs.	30,298	3,685	42,674	4,667	204,039	22,891	327,419	33,894
Cuba ....lbs.	436,639	30,249	626,254	41,210	2,048,558	142,530	2,006,780	137,474
Argentina ....lbs.	255,609	16,644	215,492	19,525	1,340,200	105,005	643,867	48,375
Other South America....lbs.	67,196	5,758	78,068	6,652	538,399	46,580	821,118	62,881
China, Hong Kong, and Kwantung...lbs.	336,044	20,218	301,051	18,866	2,758,307	166,117	4,058,441	247,918
Philippine Islands ....lbs.	344,879	22,079	171,027	10,856	1,962,857	129,386	2,176,237	136,252
Australia ....lbs.	64,030	7,036	16,966	1,804	518,534	70,047	492,433	38,022
Other countries ....lbs.	113,865	10,079	237,251	19,817	654,776	55,702	1,379,163	107,737
Cover paper ....lbs.	173,277	27,250	188,239	31,211	849,975	146,672	1,038,836	168,608
Greaseproof and waterproof paper....lbs.	200,072	51,525	286,590	60,699	1,189,549	219,737	1,405,788	268,771
Overissue and old newspapers....lbs.	10,566,062	128,235	16,619,277	134,172	54,626,086	628,346	70,871,646	612,424
Wrapping paper ....lbs.	3,921,029	244,647	3,224,079	186,843	18,286,531	1,252,488	20,439,641	1,289,359
Surface-coated paper ....lbs.	1,062,830	98,117	740,530	87,067	8,374,317	749,223	4,347,870	476,992
Tissue and crêpe paper ....lbs.	332,855	72,523	386,019	84,912	1,819,338	395,785	2,342,674	428,616
Toilet paper ....lbs.	422,332	47,027	572,299	62,520	3,101,173	350,988	3,146,417	347,257
Paper towels and napkins....lbs.	195,420	27,884	343,018	38,731	1,395,396	164,123	1,748,981	200,841
Box board, paper board, and straw board..lbs.	4,237,028	109,664	8,348,736	188,092	21,676,374	574,662	29,080,270	711,165
Bristols, and bristol board....lbs.	309,039	24,627	111,962	12,619	1,346,560	129,773	1,053,357	97,436
Other paper board ....lbs.	3,267,377	163,796	4,370,943	184,338	17,277,903	817,974	16,956,496	823,315
Sheathing and building paper....lbs.	2,011,068	67,232	1,842,421	54,730	10,329,333	356,787	8,277,019	302,282
Fiber insulating lath or board....sq. ft.	1,777,655	53,834	5,531,899	188,390	8,624,976	284,332	28,188,932	902,604
Wall board or paper or pulp....sq. ft.	4,941,375	155,215	2,267,652	79,833	27,166,224	886,528	13,742,584	444,717
Blotting paper ....lbs.	353,443	41,863	315,382	33,868	1,660,998	192,488	1,424,027	167,619
Filing folders, index cards, and other office forms ....lbs.	143,603	54,517	157,216	73,998	710,544	258,230	725,457	274,311
Papeteries (fancy writing paper)....lbs.	39,345	12,636	37,916	8,501	262,457	67,053	249,379	54,033
Other writing paper ....lbs.	2,178,379	221,857	2,033,353	228,096	12,986,033	1,358,344	9,638,514	1,006,215
Paper hangings (wall paper)....rolls	.....	39,656	120,701	23,814	.....	372,590	1,990,587	303,247
Paper bags ....lbs.	846,996	77,340	828,586	75,529	4,594,943	415,976	3,969,386	348,014
Boxes and cartons ....lbs.	2,530,637	157,777	2,559,485	125,408	12,923,211	810,718	11,080,586	620,644
Envelopes ....lbs.	245,103	41,133	241,444	34,099	1,027,587	176,600	1,057,660	171,776
Vulcanized fiber sheets, strips, rods, and tubes ....lbs.	490,290	113,579	362,832	87,303	2,808,670	702,475	2,063,084	509,017
Cash-register and adding-machine paper....lbs.	488,880	48,927	878,471	73,672	2,032,440	199,284	2,433,979	218,315
Other paper and paper products....lbs.	.....	442,289	.....	353,303	.....	2,720,966	.....	1,945,145
WOOD PULP AND PAPER STOCK								
Sulphite wood pulp ....tons	5,154	218,394	4,423	236,696	20,166	1,035,496	13,126	728,167
Soda wood pulp ....tons	358	28,242	210	14,904	852	68,360	1,339	103,736
Other wood pulp ....tons	555	38,119	424	16,998	2,928	194,526	4,199	168,760
Rags and other paper stock....lbs.	9,243,663	139,413	4,884,243	76,935	53,457,353	1,010,476	27,359,403	417,394
PAPER AND PULP MILL MACHINERY								
Paper and pulp mill machinery....	.....	288,170	.....	253,075	.....	1,237,252	.....	1,235,666

Bishop Stewart to Address Paper Salesmen

The annual fall luncheon of the Salesmen's Association of the Paper Industry will be held at the Hotel Stevens, Chicago, Ill., Tuesday, October 7, the week of the fall meeting of the National Paper Trade Association.

The speaker at this luncheon will be the Right Reverend George Craig Stewart, Bishop Coadjutor of the Episcopal Diocese of Chicago. Bishop Stewart's topic will be European conditions versus American conditions.

Bishop Stewart has just returned from several weeks in Europe where he attended the Lambeth Conference and is therefore particularly well equipped to speak on European conditions of today. His standing as a student of world affairs makes it certain that his talk will be well worth while.

Bishop Stewart has been Chaplain of the Salesmen's Association of the Paper Industry since its organization and is well known to the majority of the members of the Salesmen's Association who are looking forward to his talk with great interest.

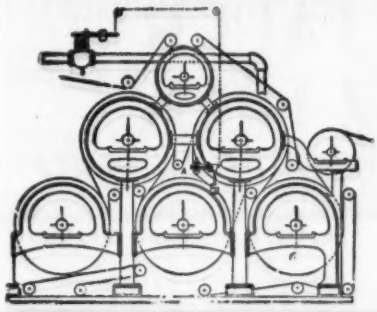
Canada's Trade With Brazil

Dealing with special features of Canada's export trade with Brazil, A. S. Bleakney, Canadian trade commissioner at Rio de Janeiro says that for the fiscal year 1929-30 shipments of news print were valued at only $1,536, as against $70,465 in the previous year—a decline of $68,929. He continues:

"Total imports under the heading of wood, wood products, and paper dropped from $73,117 to $5,123 due to failure of substantial repeat orders to materialize on an initial shipment of news print. News print must be specially watermarked for the Brazilian market with faint lines 5 centimetres apart. It is difficult to understand why Canadian news print can compete successfully with Scandinavian in the Argentine but not in Brazil, unless the watermarking requirement is a handicap. Apart from news print, the only other significant item is building paper, of which the asphalted-felt type enjoys a limited sale of roofing purposes.

"A carload order for pulp fibreboard was recently placed, and this business looks promising."

The Pickles Drying Regulator



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will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information.

W. F. PICKLES **Buckland, Conn.**

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Look for the Famous Alligator stamped on the lacing and the yellow labelled box

Alligator Steel Belt Lacing is suitable for all types and thicknesses of belting.

All eleven sizes of lacing are furnished with metal hinge pins, unless ordered otherwise. Metal outwears other types of pins and does not soften under moisture.

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The name protects and guarantees you satisfaction.

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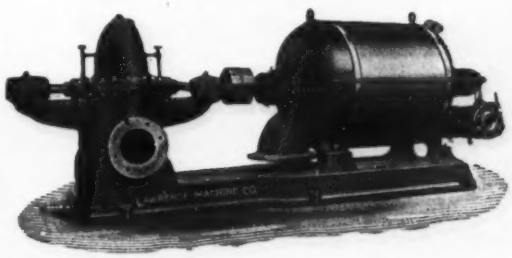

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Have only Lawrence Pumps, manufactured by the

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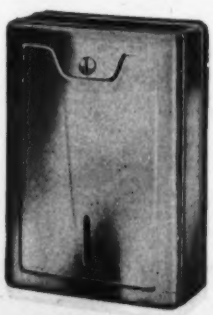
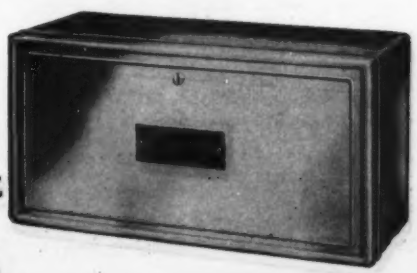


GRIFFITH-HOPE

Dispensing Cabinets AND Fixtures ARE The STANDARD of the PAPER TRADE

For Towels, Toilet, Napkins, Etc.



GRIFFITH-HOPE CO., **West Allis, Wisc.**

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING AUGUST 16, 1930

SUMMARY

Cigarette paper .....100 cs.
Wall paper .....9 cs.
Paper hangings .....28 bls., 5 cs.
News print .....1241 rolls
Printing paper .....121 rolls, 111 bls., 96 cs.
Wrapping paper .....4 rolls, 157 bls., 42 cs.
Filter paper .....59 cs.
Drawing paper .....48 cs.
Colored paper .....59 cs.
Surface coated paper .....10 cs.
Metal paper .....1 bls., 2 cs.
Coated paper .....11 cs.
Photo paper .....2 cs.
Decalcomania paper .....11 cs.
Tissue paper .....24 cs.
Aluminum paper .....25 cs.
Writing paper .....15 cs.
Envelopes .....42 cs.
Gummed paper .....7 cs.
Miscellaneous paper....200 rolls, 162 bls., 69 cs.

CIGARETTE PAPER

H. H. Strauss, Sarcoxie, Havre, 100 cs.

WALL PAPER

J. E. Bernard & Co., Stuttgart, Bremen, 1 cs.
J. E. Bernard & Co., Aquitania, Southampton, 2 cs.
F. J. Emmerich, Hamburg, Hamburg, 3 cs.
Globe Shipping Co., Hamburg, Hamburg, 1 cs.
A. L. Diament & Co., Homeric, Southampton, 2 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnetonka London, 26 bls., 1 cs.
Whiting & Patterson Co., Inc., Aquitania, Southampton, 2 bls., 4 cs.

NEWS PRINT

Baldwin Paper Co., Stuttgart, Bremen, 193 rolls.
——, Stuttgart, Bremen, 357 rolls.
Perkins, Goodwin & Co., Hamburg, Hamburg, 48 rolls.
The Times Co., Kungsholm, Gothenburg, 111 rolls.
——, Minnequa, Kotka, 451 rolls.
——, Cleveland, Hamburg, 60 bls.
Perkins, Goodwin & Co., G. Washington, Hamburg, 81 rolls.

PRINTING PAPER

International F'd'g Co., J. Jadot, Antwerp, 33 cs.
C. Steiner, Statendam, Rotterdam, 45 cs.
International F'd'g Co., Statendam, Rotterdam, 8 cs.
Perkins, Goodwin & Co., Hamburg, Hamburg, 64 bls.
E. Dietzgen & Co., Hamburg, Hamburg, 8 cs.
——, Cleveland, Hamburg, 96 rolls, 38 bls.
Dillon Ralston, Median, Manchester, 9 bls.
Keuffel & Esser Co., G. Washington, Hamburg, 25 rolls.
Meadows, Wye & Co., G. Washington, Hamburg, 2 cs.

WRAPPING PAPER

T. Barret & Son, Kingsholm, Gothenburg, 157 bls.
Standard Products Corp., Westernland, Antwerp, 30 cs., 4 rolls.
C. Steiner, Cleveland, Hamburg, 12 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Carmania, London, 8 cs.
J. J. Murphy & Co., Carmania, London, 1 cs.
E. Fougera & Co., Homeric, Southampton, 50 cs.

DRAWING PAPER

J. J. Murphy & Co., Carmania, London, 1 cs.
Keuffel & Esser Co., G. Washington, Hamburg, 47 cs.

COLORED PAPER

S. Gilbert, Stuttgart, Bremen, 13 cs.
F. L. Kramer & Co, Stuttgart, Bremen, 1 cs.
E. Dietzgen & Co., Hamburg, Hamburg, 41 cs.
Judson Freight F'd'g Co., Cleveland, Hamburg, 4 cs.

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Phoenix Shipping Co., Statendam, Rotterdam, 2 cs.
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American Express Co., Waukegan, Havre, 9 cs.
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J. Beckhard & Co., Stuttgart, Bremen, 42 cs.

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Heemsoth, Basse & Co., Hamburg, Hamburg, 7 cs.

MISCELLANEOUS PAPER

Globe Shipping Co., Statendam, Rotterdam, 24 cs.
Manufacturers Trust Co., Hamburg, Hamburg, 20 cs.
The Borregaard Co., Inc., Kungsholm, Gothenburg, 200 rolls, 58 bls.
J. E. Andersen & Co., Kungsholm, Gothenburg, 8 cs.
Kraenmer & Co., Kungsholm, Gothenburg, 104 bls.
Cheramy, Inc., Paris, Havre, 1 cs.
Guibout Freres, Paris, Havre, 3 cs.
Keller Dorian Paper Co., Paris, Havre, 13 cs.

RAGS, BAGGINGS, ETC.

S. Birkenstein & Son, Carmania, London, 144 bls. paper stock.
——, Stuttgart, Bremen, 72 bls. rags.
J. Cohen Son Co., Samraia, Liverpool, 39 bls. paper stock; 18 bls. rags.
——, Caledonia, Glasgow, 18 bls. rags.
Darmstadt, Scott & Courtney, Amer. Merchant, Hamburg, 66 bls. jute waste.
Guaranty Trust Co, J. Cartier, Antwerp, 85 bls. rags.
——, J. Cartier, Dunkirk, 65 bls. bagging.
——, Median, Manchester, 76 bls. bagging.
E. J. Keller Co., Inc., Median, ——, 70 bls. bagging.
E. J. Keller Co., Inc., J. Cartier, ——, 110 bls. flax waste.

WOOD PULP

——, Bergensfjord, Oslo, 508 tons wood pulp.
——, Hamburg, Hamburg, 133 bls. sulphite, 26 tons.
Guaranty Trust Co., Hamburg, Hamburg, 714 bls. sulphite, 144 tons.
Perkins, Goodwin & Co., Kungsholm, Gothenburg, 127 bls. wood pulp.
Johanson, Wales & Sparre, Inc., Kungsholm, Gothenburg, 127 bls. wood pulp.
Johanson, Wales & Sparre, Inc., Kungsholm, Gothenburg, 1250 bls. sulphate.
E. M. Sergeant & Co., Kungsholm, Gothenburg, 500 bls. wood pulp; 699 bls. kraft pulp.
Parsons & Whitemore, Inc., Kungsholm, Gothenburg, 450 bls. sulphite.
Price & Pierce, Ltd., Kungsholm, Gothenburg, 250 bls. wood pulp.
——, Minnequa, Hernosand, 150 bls. wood pulp, 30 tons.
Lagerloef Trading Co., Minnequa, Rauma, 122 bls. sulphite, 20 tons.
Bulkley, Dunton & Co., Odensholm, 1750 bls. wood pulp.
——, Odensholm, Tertia, 250 bls. wood pulp.
Parsons & Whittemore, Inc., Adensholm, Rosenborg, 150 bls. mechanical pulp.
Castle & Overton, Inc., Cleveland, Hamburg, 752 bls. wood pulp, 112 tons.
E. J. Keller Co., Inc., G. Washington, ——, 360 bls. wood pulp, 54 tons.

PULP WOOD

Chase National Bank, Ashby, Archangel, 3461 cords.
——, Mansepool, Archangel, 3090 cords.

WOOD FLOUR

Innes, Speiden & Co., Kungsholm, Gothenburg, 726 bags.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 16, 1930

Phila. National Bank, Sac City, Antwerp, 110 bls. rags.
S. E. Ingber, Sac City, Antwerp, 74 bls. rags.
Bulkley, Dunton & Co., Minnequa, ——, 3975 bls. wood pulp, 715 tons.
Amtorg Trading Corp., Minnequa, Leningrad, 349 bls. rags.
Lagerloef Trading Co., Odensholm, Helsingfors, 649 bls. pulp boards.
Stora Kopperberg Corp., Odensholm, Skutskar, 2525 bls. dry pulp.
Johanson, Wales & Sparre, Inc., Odensholm, Sundsvall, 2100 bls. sulphite
Perkins, Goodwin & Co., Odensholm, Sundsvall, 1125 bls. sulphite; 1250 bls. sulphate.
Gilman Paper Co., Odensholm, Sundsvall, 631 rolls news print.
J. A. Steer & Co., J. Cartier, Havre, 303 bls. rags.
Katzenstein & Keene, Inc., J. Cartier, Havre, 781 bls. rags.
Darmstadt, Scott & Courtney, J. Cartier, Dunkirk, 64 bls. rags.
Chase National Bank, J. Cartier, Dunkirk, 35 bls. flax waste.
——, J. Cartier, Dunkirk, 557 bls. rags.
J. L. Vandiver, Median, Manchester, 110 coils old rope.
National Vulcanized Fibre Co., Median, Manchester, 48 bls. new cuttings.
Strawbridge & Clothier, Waukegan, Havre, 10 cs. writing paper.
J. Horne, Waukegan, Havre, 9 cs. writing paper.
Union Waste Co., Waukegan, Havre, 24 bls. rags.

(Continued on page 74)

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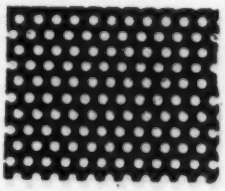

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Imports of Paper and Paper Stock

(*Continued from page 72*)

BOSTON IMPORTS

WEEK ENDING AUGUST 16, 1930

Brown Bros. & Co., Missouri, London, 204 coils old rope; 80 bls. waste paper.

Baring Bros. & Co., Missouri, London, 217 bls. waste paper.

Crocker, Burbank & Co., Missouri, London, 128 bls. waste paper.

Irving Trust Co., Sac City, Antwerp, 46 bls. bagging.

Meredith Linen Mills, Sac City, Antwerp, 124 bls. flax waste.

Spaulding Fibre Co., Sac City, Antwerp, 1006 bls. flax waste.

E. Butterworth & Co., Inc., Sac City, Antwerp, 98 bls. flax waste.

Stoen & Downer, Sac City, Antwerp, 14 cs. parchment paper.

Int'l Trust Co., Sac City, Antwerp, 120 bls. bagging.

G. F. Malcolm & Co., Britannic, Liverpool, 38 cs. tissue paper.

Baring Bros. & Co., Median, Manchester, 132 bags hide cuttings.

E. Butterworth & Co., Inc., Median, Manchester, 184 bags hide cuttings.

Baring Bros. & Co., Median, Manchester, 117 bls. new cuttings.

J. B. Moors & Co., Median, Liverpool, 884 bags hide cuttings.

Crocker, Burbank Co., Median, Liverpool, 35 bls. waste paper.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 16, 1930

Lagerloef Trading Co., Minnequa, Rauma, 3621 bls. sulphite, 609 tons; 2670 bls. wood pulp, 534 tons.

Lagerloef Trading Co., Odensholm, Helsingfors, 640 bls. wood pulp.

Bulkley, Dunton & Co., Odensholm, ——, 3125 bls. sulphite.

Stora, Kopperberg Corp., Odensholm, Skutskar, 975 bls. dry pulp.

Parsons & Whittemore, Inc., Odensholm, Sundsvall, 1200 bls. mechanical pulp.

Perkins, Goodwin & Co., Odensholm, Sundsvall, 1000 bls. sulphite pulp; 1500 bls. sulphate pulp.

National City Bank, J. Cartier, Havre, 428 bls. rags.

NEWPORT NEWS IMPORTS

WEEK ENDING AUGUST 16, 1930

——, Minnequa, Hernosand, 5100 bls. sulphite, 850 tons.

——, Minnequa, Hernosand, 1440 bls. sulphate, 240 tons.

Work of the Import Committee

The Import Committee of the American Paper Industry has announced the conclusion of cases involving 122 importations of cigarette paper and cigarette paper books, under which undervaluation was found on shipments from France. The customs officials believed the imports were undervalued, and an investigation was ordered abroad, and the outcome was the withdrawal of customs officials from France, and the paper was held dutiable at the United States selling price. This was such a heavy increase in the dutiable value that the French paper mills decided to disclose the real figures, and the final adjustment was on the basis of a dutiable value higher than at which the paper was entered, but less than the United States value. As a result of this experience of the French they are no longer protesting against the presence of American agents in France, but asked for their return.

The two most serious problems before the Import Committee at present involve undervaluation of foreign wall paper, and the proper classification of fancy papers. In a single week twenty problems involving the correct classification of various fancy papers came before the Import Committee's customs experts. The committee experts are working closely with the customs officials to secure a proper interpretation of the new tariff law as it affects such papers.

Norwegian Paper Market Quiet

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 20, 1930—The Norwegian paper market was generally extremely quiet during the second quarter of the current year, according to a report to the Department of Commerce from Consul General I. H. Bevan, at Oslo.

The report states that the demand was slack, and while exports of news print, ground wood, and bleached sulphite were in excess of the first six months of last year, this condition was due to the fulfilling of contracts rather than to new business. The market for thin printings continued bad, with attendant low prices, while in the kraft and greaseproof sections of the industry demand has been falling behind production, and shipments during the first half of the current year were under those of the corresponding period of last year.

Pulp producers complain of the general low prices. Buyers seem to have covered their requirements as far as bleached and easy bleaching sulphite are concerned, while in the kraft market conditions have been even less favorable. It is hoped that steps taken in Sweden to curtail production of this particular grade will lead to a stabilization of prices.

Portland Box Plant Suffers Big Fire Loss

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 18, 1930—The plant of the F. C. Stettler manufacturing company, Portland, Oregon, paper box concern, was almost completely destroyed by fire August 11, with a loss of $750,000 entirely covered by insurance.

The blaze was discovered by the night watchman when he started on his rounds at 1 A. M. and developed into one of the worst fires that has occurred in the city for some time, three firemen being seriously injured.

When first discovered the blaze was in a pile of papers near a cylinder press but too large to be extinguished by chemicals and the plant had no sprinkling system. The watchman summoned the fire department and then opened the door to drive out the trucks in the garage adjacent. The opening of this door seemed to start a draft which swept the fire at once through the two upper stories. Before the fire was extinguished 21 engine companies, two fireboats and three trucks were in action and substitute firemen were in charge of regular fire stations.

F. C. Stettler, president of the company, expressed concern because of the 150 persons who would be thrown out of employment, but said rebuilding would be started at once.

Japanese Consumption of Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 20, 1930—The Japanese Paper Manufacturers' Association reports consumption by association mills during the month of May as comprising 5,017,820 cubic feet of pulpwood, 913 tons of rags, 697 tons of straw, and 2,870 tons of waste paper, in addition to 27,109 tons of chemical and 20,003 tons of mechanical pulp. Of the chemical pulp 21,513 tons were manufactured in the association's own plants and 5,696 tons purchased from other sources, while of the mechanical pulp, all except 324 tons were manufactured by the association mills.

Swedish Mill Curtail Production

WASHINGTON, D. C., August 20, 1930—The over expansion of facilities, with its accompanying over production of sulphate pulp, has determined several Swedish mills to shut down or reduce their operations, according to a recent report from Trade Commissioner F. C. Sommer, at Stockholm. One of the mills closed down in July while as a result of a meeting of Swedish kraft manufacturers, it is planned to close three other mills and operate a fourth only four days per week. The mills closed down, or to be closed have a yearly capacity of 133,000 tons of sulphate pulp, while the Dynas mill, which will operate on a part time basis has a capacity of 18,000 tons.

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New York Market Review

Office of the PAPER TRADE JOURNAL.
Wednesday, August 20, 1930.

Although most of the business transacted of late in the local paper market has consisted of small orders for immediate requirements, conditions are fairly satisfactory for the time of year. Inquiries for future account are being received in fair volume and a material broadening of trading is confidently anticipated after the holiday season, in most quarters. Prices on most of the standard grades of paper are holding to previously quoted levels.

News print operations in the United States, Canada and Newfoundland are running at a total weighted average of 65 per cent, according to statistics gathered by the News Print Service Bureau. Stocks at the mills at the end of July totalled 82,146 tons, which was equivalent of 4.8 days average production. The price situation continues unchanged.

Some improvement was noticed in the paper board market. Demand for box board is gradually improving and better prices are looked for, in some quarters, in the near future. The various grades of fine paper are generally in seasonal request and prices are holding to schedule, in most instances. The coarse paper market is fairly steady and wrapping paper is moving in routine volume.

Mechanical Pulp

Despite the recent prolonged drought, the situation of the ground wood market is practically unchanged. While production has been curtailed somewhat, offerings are apparently adequate to meet current requirements. The contract movement is well up to average for the time of year. Prices are generally holding to formerly quoted levels.

Chemical Pulp

The chemical pulp market was only moderately active during the past week. Shipments against contract, however, continue to go forward in a satisfactory manner for the season. Inquiries for future needs are fairly numerous. No radical price changes were recorded. Easy bleaching sulphite is still being offered at from $2.60 to $2.80, on dock, Atlantic ports.

Old Rope and Bagging

Trading in the old rope market was mostly along routine lines. Domestic manila rope is moving in satisfactory volume, while foreign manila rope is in moderate request. Small mixed rope is going forward in fair volume. The bagging market is exhibiting a strong undertone. Scrap bagging is in excellent request and gunny is fairly steady.

Rags

Paper mill interest in the domestic rag market is rather indifferent at present. Demand for cotton cuttings is somewhat restricted. Roofing grades are beginning to show a livelier trend. The mixed rag market is dull. Domestic rag prices are generally holding to formerly quoted levels. The position of the imported rag market is practically unchanged.

Waste Paper

The local paper stock market is steadier than for some time past. Board mills are displaying more interest in the lower grades and, as offerings are not excessive, the situation is gradually becoming firmer. In the better grades, soft white shavings and hard white envelope cuttings are holding up very well.

Twine

Most of the business transacted in the local twine market was along routine lines. While business at present is rather listless there should be a general revival of activities after Labor Day. There are a number of inquiries around for future account and the outlook for the future is promising. Prices are generally steady and unchanged.

Conditions Improving in Middletown

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, August 18, 1930—Middletown, the Paper City, is advancing in spite of dull conditions generally. Building permits issued during the past week totaled more than $51,000.

Among the improvements provided in this outlay are those to be made at the W. B. Oglesby Paper Company's mill on Columbia avenue, between Main street and the Hydraulic; and alterations and additions to the Paul A. Sorg Paper Company on the north side of Manchester avenue between Main street and the Hydraulic. The last mentioned improvement will involve an expenditure of approximately $15,000.

In connection with the many improvements being made in paper mill centers, such as Hamilton, Franklin, Middletown and Dayton, it may be well to mention the feeling of assurance pervading in commercial circles.

Various factory concerns in the northern, central and southern sections of Ohio are calling for their men to return, many thousands having been summoned the past week. As yet, this condition does not prevail in Dayton but this city is said to have been less affected by the depression than many other centers. As an illustration, the National Cash Register Company, while reducing its force to an extent, kept more than 6,000 persons on the payroll.

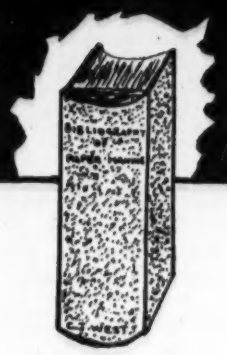
Dayton, being a city of diversified industries, some of which are only moderately large, fared much better than those cities in which dominating enterprises existed. Nothwithstanding, Dayton is the home of several of the largest plants of their kind in the world.

Report of the Fourth District Federal Reserve bank in which this territory is located, shows marked improvement and resumption of work in numerous industries. Plentiful money and increasing building construction are noted. Stocks are declared to be much lower by manufacturers and dealers, indicating a resumption of manufacturing.

In retrospect the District Federal Reserve Bank reported the first half of the year has found in many lines, production, consumption and employment could compare favorably with that during the same period in all years except 1929.

An encouraging feature is the return of hundreds of railway repair and roundhouse workers in Ohio, indicating an early resumption of transportation activities.

Bibliography of Paper Making



Compiled by Clarence J. West

Chairman, Committee on Abstracts and Bibliography, Technical Association of the Pulp and Paper Industry
Director, Research Information Service, National Research Council
Associate Editor, International Critical Tables

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, August 20, 1930.

BLANC FIXE.—Demand for blanc fixe was fairly persistent during the past week. The contract movement is well up to average. Prices are steady. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHED POWDER.—The bleaching powder market was rather quiet. Most of the business transacted was along routine lines. Shipments against contract are moving in seasonal volume. Prices are unchanged. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—Conditions in the casein market are fairly satisfactory. Domestic standard ground is still quoted at 13½ cents and standard ground at 15 cents per pound. Argentine standard ground is selling at 13½ cents and standard ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market, despite restricted demand. Prices are generally holding to schedule. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is in a strong position. Demand is well sustained and prices are holding to schedule without difficulty. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Although the chlorine market is dull, the industry is in a fairly satisfactory condition. While there have been reports of concessions, prices are generally steady. Chlorine is quoted at from $2.40 to $2.45 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.— The rosin market was only moderately active. Prices are decidedly easy. The grades of gum rosin used in the paper mills are now quoted at from $5.30 to $5.35 per 280 pounds in barrels, at yard. Wood rosin is selling at $4.10 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Trading in the salt cake market was fairly active for the time of year. Shipments against contract are going forward in a normal manner. Salt cake is still quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—The position of the soda ash market is practically unchanged. Supplies are moving into consumption in fairly heavy volume. Prices are generally holding to schedule. Contract quotations on soda ash, in car lots, at works, are still as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Due to the appreciation of corn values, the starch market continues steady to firm. Contract shipments are going forward to the paper mills in satisfactory volume for the season. Special paper making starch is quoted at $3.77, in bags, and at $4.04 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The sulphate of alumina market is exhibiting a fairly strong undertone. Contract shipments are moving in seasonal volume. Prices remain unchanged. Commercial grades are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds.

SULPHUR.—While demand for sulphur is light, prices continue steady. Sulphur is quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and nearby car loads the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the past week was along routine lines. Prices are holding to schedule. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	9.00	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	8.00	@	11.00
Book, Cased—			
S. & S. C.	6.00	@	7.50
M. F.	5.75	@	7.00
Coated and Enamel	7.50	@	12.00
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.75	@	1.00
Anti-Tarnish	1.35	@	1.90
Colored	1.00	@	2.00
White No. 2	.75	@	.80
Kraft	1.00	@	1.10
Manila	.75	@	.80
Kraft—			
No. 1 Domestic	5.75	@	6.25
No. 2 Domestic	3.75	@	5.00
Southern	3.75	@	4.75
Imported	6.50	@	7.00
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.75	@	5.25
No. 2 Wood	4.00	@	4.50
Butchers	3.75	@	4.25
Fibre Papers—			
No. 1 Fibre	5.00	@	5.50
No. 2 Fibre	4.75	@	5.25
Common Bogus	2.75	@	3.00
Screenings	3.00	@	3.25
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs.	13.00	@	16.00
Bleached, basis 20 lbs.	15.00	@	16.00

(Delivered New York)

News, per ton—			
Rolls, contract	62.00	@	—
Rolls, spot	62.00	@	—
Sheets	67.00	@	—
Side Runs	47.00	@	52.00
Boards—per ton—			
News	37.50	@	—
Straw	44.00	@	—
Chip	35.00	@	—
Binders' Boards	65.00	@	70.00
100 Test Jute Liner	37.50	@	40.00
85 Test Jute Liner	47.50	@	50.00
Sgl. Mla. Ll. Chip	47.50	@	50.00
Wood Pulp Boards	75.00	@	80.00

(F. o. b. Mill)

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	28.00	@	30.00
Dry	30.00	@	32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	3.00	@	4.25
Easy Bleaching	2.60	@	2.80
No. 1 strong unbleached	2.30	@	2.65
Mitscherlich unbleached	2.40	@	2.85
No. 2 strong unbleached	2.20	@	2.35
No. 1 Kraft	1.65	@	2.15
No. 2 Kraft	1.55	@	1.65
Sulphate—			
Bleached	3.40	@	3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.65	@	4.75
Easy Bleaching Sulphite	2.55	@	2.75
News Sulphite	2.35	@	2.60
Mitscherlich	2.75	@	3.25
Kraft (Domestic)	2.10	@	3.30
Soda Bleached	2.90	@	3.20

Domestic Rags

New Rags

(Prices to Mill f. o. b N. Y.)

Shirt Cuttings—			
New White, No. 1	8.75	@	9.25
New White, No. 2	7.25	@	7.75
Silesias No. 1	6.75	@	7.00
New Unbleached	9.50	@	10.00
New Blue Prints	5.25	@	5.50
New Soft Blacks	5.25	@	5.75
Blue Overall	6.75	@	7.25
Washables	4.25	@	4.75
Fancy	4.75	@	5.25
Mixed Khaki Cuttings	4.75	@	5.25
Pink Corset Cuttings	8.00	@	8.50
O. D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.75	@	4.25
New Mixed Blacks	3.50	@	3.75

Old Rags

White, No. 1—			
Repacked	5.50	@	6.00
Miscellaneous	4.50	@	5.00
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.50	@	2.75
St. Soiled, White	2.00	@	2.15
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.50	@	1.60
No. 1	1.50	@	1.60
No. 2	1.15	@	1.25
No. 3	1.10	@	1.20
No. 4	1.00	@	1.10
No. 5A	.90	@	1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@	3.00
New Mixed Cuttings	2.25	@	2.75
New Light Silesias	6.75	@	7.00
Light Flannelettes	6.75	@	7.25
Unbleached Cuttings	9.00	@	9.50
New White Cuttings	9.00	@	9.50
New Light Oxfords	7.00	@	7.50
New Light Prints	5.00	@	5.50

Old Rags

No. 1 White Linens	7.25	@	8.00
No. 2 White Linens	5.75	@	6.75
No. 3 White Linens	4.75	@	5.25
No. 4 White Linens	3.00	@	3.50
No. 1 White Cotton	5.50	@	6.25
No. 2 White Cotton	4.50	@	5.00
No. 3 White Cotton	3.00	@	4.00
No. 4 White Cotton	1.75	@	2.10
Extra Light Prints	2.75	@	3.00
Ord. Light Prints	2.15	@	2.40
Med. Light Prints	1.80	@	2.00
Dutch Blue Cottons	2.15	@	2.30
French Blue Linens	2.65	@	2.75
German Blue Linens	2.30	@	2.50
German Blue Cottons	1.90	@	2.00
Checks and Blues	1.75	@	1.90
Lindsay Garments	1.30	@	1.40
Dark Cottons	1.00	@	1.10
Old Shopperies	.90	@	1.00
New Shopperies	.95	@	1.05
French Blues	1.95	@	2.05

Old Rope and Bagging

(Prices to Mill f. o.b. N. Y.)

Gunny No. 1—			
Foreign	1.60	@	1.70
Domestic	1.65	@	1.75
Wool Tares, light	1.60	@	1.65
Wool Tares, Heavy	1.60	@	1.70
Bright Bagging	1.60	@	1.70
Small Mixed Rope	1.25	@	1.40
Manila Rope—			
Foreign	3.00	@	3.25
Domestic	3.50	@	3.75
New Burlap Cut	2.25	@	2.50
Hessian Jute Threads—			
Foreign	3.50	@	4.00
Domestic	3.25	@	3.50

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	3.00	@	3.25
Hard, white, No. 2	2.40	@	2.55
Soft, white, No. 1	2.65	@	2.75
White envelope cuttings	2.90	@	3.10
Flat Stock—			
Stitchless	1.30	@	1.40
Overissue Mag.	1.30	@	1.40
Solid Flat Book	1.20	@	1.30
Crumpled No. 1	.80	@	.90
Solid Book Ledger	2.00	@	2.10
Ledger Stock	1.30	@	1.40
New B. B. Chips	.35	@	.45
Manilas—			
New Env. Cut.	2.40	@	2.60
New Cuttings	1.50	@	1.75
Extra No. 1 old	1.25	@	1.35
Print	.60	@	.65
Bogus Wrapper	.60	@	.65
Container	.40	@	.50
Old Kraft Machine—			
Compressed bales	1.50	@	1.60
News—			
No. 1 White News	1.77	@	1.87
Strictly Overissue	.50	@	.55
Strictly Folded	.40	@	.45
No. 1 Mixed Paper	.22	@	.27
Common Paper	.15	@	.20

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EXCEPTIONALLY long service under severe conditions is given by Eastwood "Perfection" Digester Blow-Off Valves. Chiefly because the disc and seat ring are *easily changed* when worn without taking the valve out of line. They come in acid-resisting Bronze, with Stainless Steel trimmings, if desired.

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"American Paper Made On American Wires"

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"Perfection" VALVES

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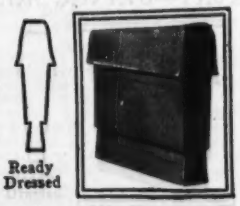

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50 Church St. Hudson Terminal Bdlg.
New York City

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Sreenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.30	@	.35
No. 2 Mixed	.25	@	.35
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.30	@	1.40
New Kraft Cuts	1.50	@	1.70
Manila Envelope Cuttings	1.65	@	1.70
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.45	@	.50
Folded News (over-issue	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03½	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¾	@	.06¾
No. 2 Kraft	.03¾	@	.04¾
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03½
Common Bogus	.03¼	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.20
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	.80	@	.90
No. 2	.70	@	.75
No. 3 (Roofing)	.30	@	.40
No. 4	.30	@	.40
No. 5A	.70	@	.75
B	.40	@	.60
C	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.13
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.06
No. 2 Kraft	.03¾	@	.05
(Less car-freight to Boston)			
Southern Kraft	.03¾	@	.04¼
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.50	@	2.60
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.30	@	—
No. 1 Books, Light	1.05	@	—
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.50	@	1.60
Old Kraft	1.35	@	1.45
Print Manila	.75	@	.80
No. 1 Mixed Paper	.20	@	.25
Overissue News	.45	@	.50
Old Newspapers	.37½	@	.40
Box Board, Chip	.50	@	.55
Corrugated Boxes	—	@	.45

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.50	@	1.65
Domestic	1.50	@	—
Manila Rope—			
Foreign	3.00	@	3.25
Domestic	—	@	3.50
Transmission Rope	2.35	@	2.50
Mixed Strings	.90	@	1.00
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.00	@	1.10
Scrap Burlaps	1.25	@	1.40
Scrap Sisal	1.50	@	1.65
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.25	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08	@	.08½
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.25	@	1.50
No. 2	.90	@	1.00
No. 3	.85	@	.90
No. 4	.75	@	.85

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.95	@	1.00
New No. 1 Shirt Cuttings	8.50	@	9.00
Dutch Blues	2.25	@	2.50
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.20	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-			
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

Advertising matter paged consecutively with text, has been removed here to lessen the bulk of this volume.

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PAPER TRADE JOURNAL

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FIFTY-NINTH YEAR

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